

GEOMETRY – MODEL No**1****Q1** Choose the correct answer:

- (1) The length of two sides in an isosceles triangle are 4 cm , 9 cm, then the length of the third side = cm
a) 4 b) 5 c) 9 d) 13
- (2) If the measure of two angles in a triangle are 55° , 70° , then the triangle is triangle
a) Isosceles b) Equilateral c) Scalene d) Obtuse
- (3) The measure of the exterior angle of an equilateral triangle= $^\circ$
a) 60 b) 120 c) 180 d) 360
- (4) In $\triangle ABC$, $AC + BC - AB$ zero
a) $\leq$ b) $>$ c) $=$ d) $<$
- (5) The length of hypotenuse = the length of the median whose drawn from the vertex of right angle
a) Half b) Third c) Quarter d) Twice
- (6) If $X \in$ axis of symmetry of $\overline{BC}$, then $\overline{XB}$ $\overline{XC}$
a) $>$ b) $=$ c) $<$ d) $\equiv$

Q2 Complete each of the following:

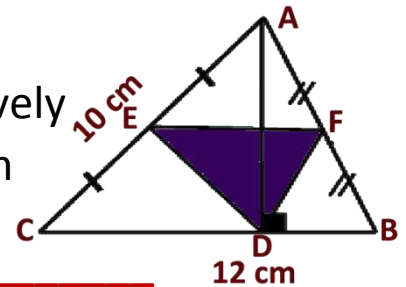
- 1) The intersecting point of the medians of triangle divide each of them with ratio **1** : From the vertex.
- 2) In $\triangle ABC$, $AB = 6$ cm , $BC = 8$ cm, $AC = 4$ cm, then $m(\angle C) > m(\dots)$
- 3) The longest side in the right angled-triangle is
- 4) If ABCD is a parallelogram, $m(\angle A) + m(\angle C) = 110^\circ$, then $m(\angle D) = ..$
- 5) If the length of any side of a triangle = $\frac{1}{3}$ perimeter of triangle, then the triangle has axes of symmetry

Q3 A) In the opposite figure:

$\triangle ABC$, F, E are midpoint of $\overline{AB}$, $\overline{AC}$ respectively

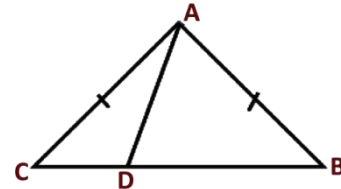
$\overline{AD} \perp \overline{BC}$, $AB = 8$ cm, $AC = 10$ cm, $BC = 12$ cm

Find the perimeter of $\triangle DFE$

**B) In the opposite figure:**

$AB = AC$,

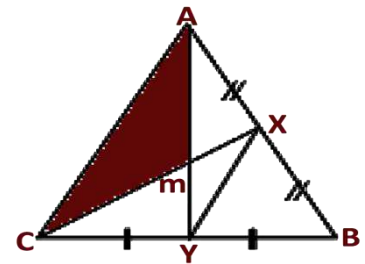
Prove that: $AB > AD$

**Q4 A) In the opposite figure:**

X, Y midpoints of $\overline{AB}$, $\overline{BC}$ respectively

$\overline{AY} \cap \overline{XC} = \{m\}$, $XY = 6$ cm, $MY = 4$ cm

$XC = 9$ cm. Find the perimeter of $\triangle ABC$

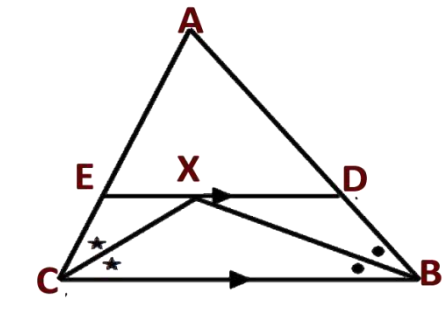
**B) In the opposite figure:**

$AB = 8$ cm, $AC = 6$ cm

$\overline{DE} \parallel \overline{BC}$, $\overline{BX}$ bisects $\angle (DBC)$,

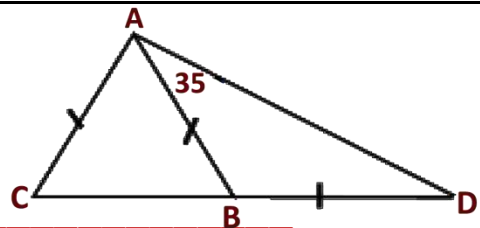
$\overline{CX}$ bisects $\angle (BCE)$

Find the area of $\triangle ADE$

**Q5 A) In the opposite figure:**

$AB = BC = AC$, $m(\angle DAB) = 35^\circ$

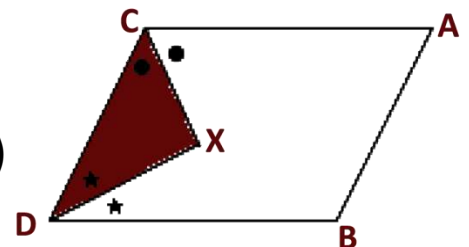
Find by proof $m(\angle BAC)$

**B) In the opposite figure:**

ABCD is a parallelogram,

$\overline{XD}$ Bisects $\angle (BDC)$, $\overline{XC}$ Bisects $\angle (ACD)$

Prove that: $AB > XC$



End of the questions

GEOMETRY – MODEL No**2****Q1** Choose the correct answer:

(1) In $\triangle ABC$, $\overline{AD}$ is median, m is concurrence point, then $AM = \dots AD$

- a) 2 b) $\frac{1}{2}$ c) $\frac{1}{3}$ d) $\frac{2}{3}$

(2) $\triangle XYZ$, $XY = XZ$, then the exterior angle at Vertex **Z** is

- a) Acute b) Right c) Obtuse d) Reflex

(3) A triangle its sides **4** cm, **7** cm, **X** cm, then $X \in \dots$

- a) $[3, 11]$ b) $]3, 11[$ c) $[3, 11[$ d) $]3, 11]$

(4) The triangle has two angles of measure **50°** , **60°** , then the number of axes of symmetry

- a) Zero b) 1 c) 2 d) 3

(5) Length of hypotenuse = the side opposite to **30°**

- a) 2 b) $\frac{1}{2}$ c) $\frac{1}{3}$ d) 3

(6) In $\triangle ABC$, $AB = AC$, $m(\angle A) = 50^\circ$. then $BC \dots AB$

- a) $<$ b) $=$ c) $>$ d) $\equiv$

Q2 Complete each of the following:

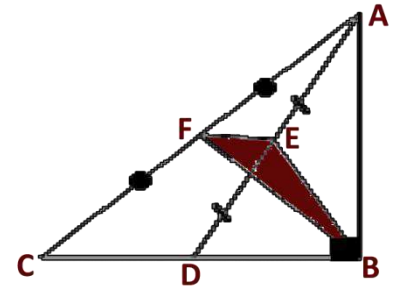
- In $\triangle ABC$, D is midpoint of $\overline{BC}$, $AD = \frac{1}{2} BC$, then $m(\angle A) = \dots$
- The bisector of vertex of isosceles triangle bisects and perpendicular to it.
- In $\triangle ABC$, $AB + BC > \dots$
- If the vertically opposite angles are complementary, then the measure of each one = $^\circ$
- The axis of symmetry of a line segment is straight line

Q3 A) In the opposite figure:

$M (\angle ABC) = 90^\circ$, E midpoint of $\overline{AD}$

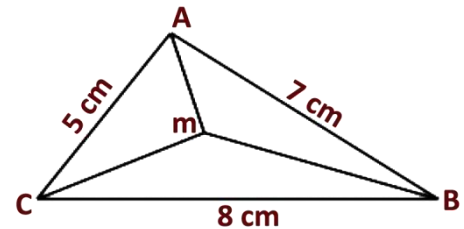
F midpoint of $\overline{AC}$, $AD = 10$ cm, $DC = 6$ cm

$AC = 12$ cm. **find the perimeter of $\triangle BEF$**

**B) In the opposite figure:**

Prove that:

$$MB + MA + MC > 10 \text{ cm}$$

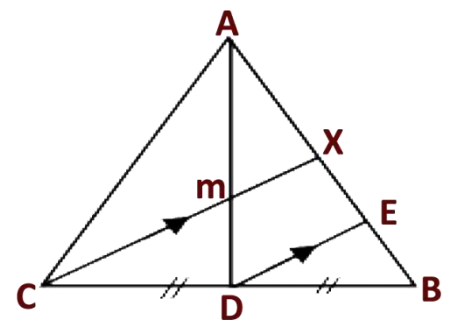
**Q4 A) In the opposite figure:**

D is midpoint of BC, $\overline{AD} \cap \overline{CX} = \{m\}$

$AM : MD = 2 : 1$, $\overline{DE} \parallel \overline{XC}$

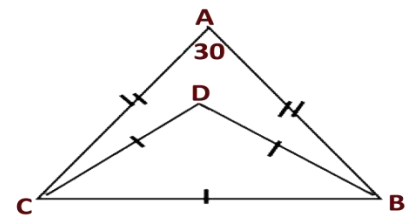
If $XM = 6$ cm

Find the length of $\overline{DE}$

**B) In the opposite figure:**

$BD = DC = CB$, $AB = AC$

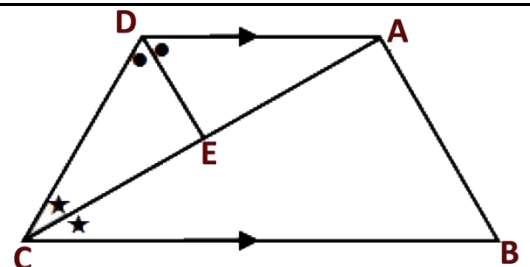
$M (\angle BAC) = 30^\circ$, **Find the $m (\angle ABD)$**

**Q5 A) In the opposite figure:**

$\overline{AD} \parallel \overline{BC}$, $\overline{DE}$ bisects $(\angle ADC)$,

$\overline{CA}$ bisects $(\angle BCD)$, **Prove that:**

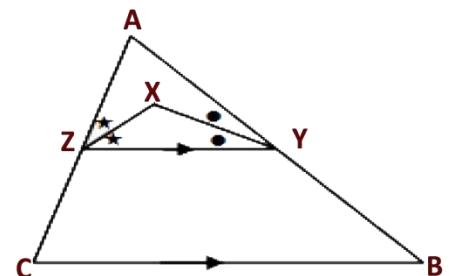
① E midpoint of $\overline{AC}$ ② $\overline{DE} \perp \overline{AC}$

**B) In the opposite figure:**

$AB > AC$, $\overline{YZ} \parallel \overline{BC}$, $\overline{XY}$ bisects $\angle (AYZ)$

$\overline{XZ}$ bisects $(\angle AZY)$.

Prove that: $XY > XZ$



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End of the questions

GEOMETRY – MODEL No**3****Q1** Choose the correct answer:

(1) $\overline{AD}$ is a median in $\triangle ABC$, $AD = \frac{1}{2} BC$, then $\angle A$ is

- a) Acute b) Obtuse c) Right d) Straight

(2) The measure of exterior angle of an equilateral triangle = $^{\circ}$

- a) 60 b) 90 c) 120 d) 180

(3) If the length of any side of triangle = $\frac{1}{3}$ its perimeter, then the number of axes of symmetry of this triangle is

- a) Zero b) 1 c) 2 d) 3

(4) In $\triangle ABC$, $AB + BC - CA > \dots\dots\dots$

- a) Zero b) 1 c) 2 d) 3

(5) ABCD is a rhombus, $AC > BD$, then $m(\angle D) \dots\dots\dots m(\angle C)$

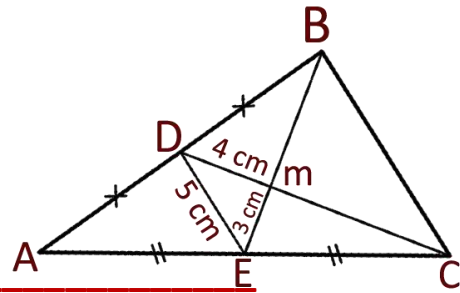
- a) $>$ b) $=$ c) $<$ d) $\leq$

Q2 Complete each of the following:

- 1) If 5 , 7 , X are lengths of triangle sides, then $X \in] \dots\dots\dots , \dots\dots\dots [$
- 2) Any point lies on axis of symmetry of a line segment is
From its terminals.
- 3) If the measures of two angles are different then the greatest in measure is opposite to a side of
- 4) The bisector of the vertex angle of an isosceles triangle.....
- 5) In $\triangle ABC$, $AB = AC$, $m(\angle A) = 3 m(\angle B)$, then $m(\angle C) = \dots\dots\dots^{\circ}$
- 6) In $\triangle ABC$ if $\overline{AB} \perp \overline{BC}$ and $AB = BC$ then $m(\angle A) = \dots\dots\dots^{\circ}$

Q3 A) In the opposite figure:

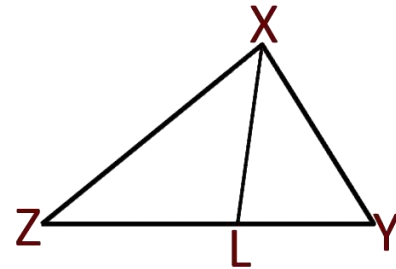
M is intersection point of medians
 $ME = 3$ cm, $MD = 4$ cm, $DE = 5$ cm.
 Find the perimeter of $\triangle MBC$

**B) In the opposite figure:**

In $\triangle XYZ$, $L \in YZ$

Prove that:

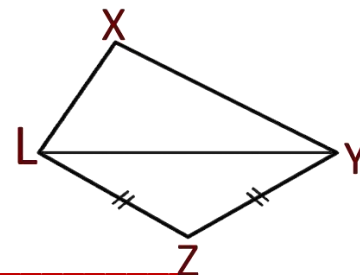
Perimeter of $\triangle XYZ > 2 \times XL$

**Q4** A) In the opposite figure:

$XY > XL$, $ZY = ZL$

Prove that:

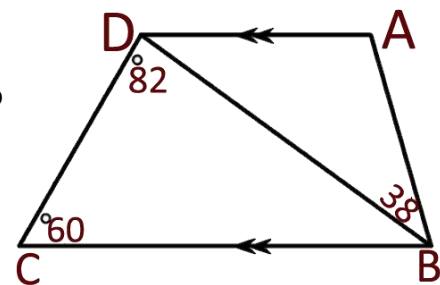
$m(\angle XLZ) > m(\angle XYZ)$

**B) In the opposite figure:**

$AD \parallel BC$, $m(\angle BCD) = 82^\circ$, $m(\angle ABD) = 38^\circ$

$m(\angle BCD) = 60^\circ$. **Prove that:**

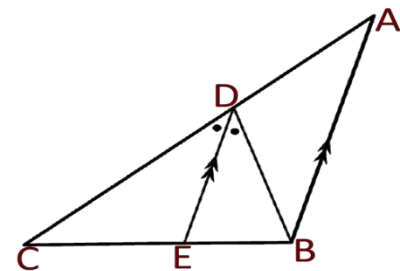
$\triangle ABD$ is an isosceles triangle

**Q5** A) In the opposite figure:

If $\overline{DE} \parallel \overline{AB}$

$\overline{DE}$ Bisects $\angle BDC$

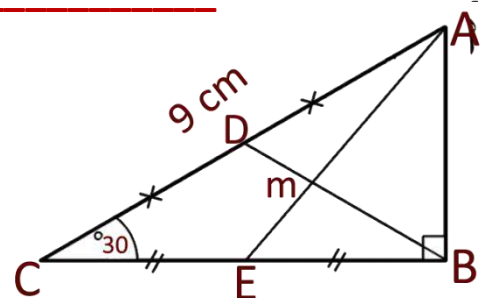
Prove that: $AC > BC$

**B) In the opposite figure:**

$\triangle ABC$ is right at B, $m(\angle C) = 30^\circ$,

D is midpoint of $\overline{AC}$, E is midpoint of $\overline{BC}$

$AC = 9$ cm. Find length of $\overline{BM}$, $\overline{AB}$



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 End of the questions

GEOMETRY – MODEL No**4****Q1** Choose the correct answer:

(1) $\overline{AD}$ is a median in $\triangle ABC$, $AD = \frac{1}{2} BC$, then $(\angle A)$ is

- a) Acute b) Right c) Reflex d) obtuse

(2) If $D \in$ axis of symmetry of $\overline{AB}$, then AD BD

- a) $\perp$ b) $=$ c) $>$ d) $<$

(3) The triangle with sides 2 cm, $(X+3)$ cm, 5 cm is isosceles triangle when $x =$

- a) -1 b) 2 c) 3 d) 4

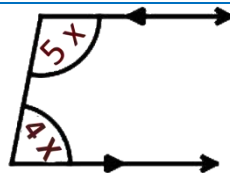
(4) The sum of measures of exterior angles for equilateral triangle =

- a) 60° b) 120° c) 180° d) 360°

(5) The intersecting point of the median of triangle divide it with ratio **2** : from the base .

- a) 1 b) 2 c) 3 d) 4

(6) In the opposite figure:
 $X =$ $^\circ$



- a) 20 b) 40 c) 90 d) 180

Q2 Complete each of the following:

1) If 3, 4, $x + 2$ are sides lengths of a triangle, then $X \in] \dots, \dots [$

2) $\triangle ABC$, $AB = AC$, $m(\angle A) = 60^\circ$ and its perimeter = 12 cm, then $BC =$

3) In $\triangle ABC$, $m(\angle B) = 90^\circ$, $m(\angle A) = 30^\circ$, then $AC =$ BC

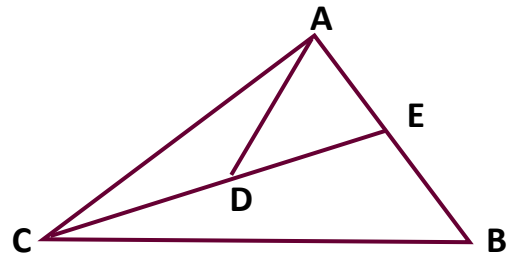
4) The bisector of the vertex angle in isosceles triangle bisect the base and

5) In $\triangle ABC$, $AB = BC$, $m(\angle B) = 50^\circ$, then $m(\angle A) >$

Q3 A) In the opposite figure:

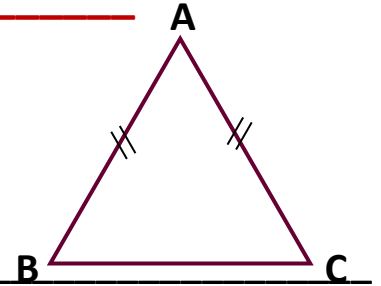
$$AD = CD = ED$$

Prove that : $BC > AC$

**B) In the opposite figure:**

$$AB = AC, m(\angle A) = x, m(\angle B) = 2x$$

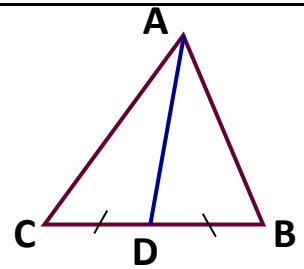
Find $m(\angle C)$ in degree.

**Q4** A) In the opposite figure:

$\triangle ABC$, D is a midpoint of $\overline{BC}$

Prove that:

Perimeter of $\triangle ADC >$ Perimeter of $\triangle ABD$

**B) $\triangle ABC$, $m(\angle A) = 75^\circ$, $m(\angle B) = 40^\circ$.**

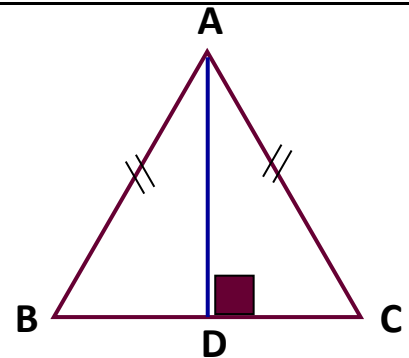
Arrange descending the sides' length of triangle ABC.

Q5 A) In the opposite figure:

$$AB = AC, \overline{AD} \perp \overline{BC}, AB = 13 \text{ cm}$$

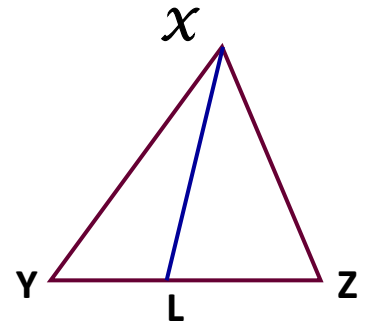
$$BC = 10 \text{ cm},$$

Find: ① Length of $\overline{BD}$
② Area of $\triangle ABC$

**B) In the opposite figure:**

Prove that:

$$\text{Perimeter of } \triangle XYZ > 2 \text{ XL}$$



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End of the questions

GEOMETRY – MODEL No**5****Q1** Choose the correct answer:**(1)** The number of axes of symmetry of isosceles triangle =

- a) Zero b) 1 c) 2 d) 3

(2) $XA = XB$ and $YA = YB$, then $\overleftrightarrow{XY}$ $\overline{AB}$

- a) $//$ b) $\perp$ c) $\equiv$ d) $=$

(3) In $\triangle ABC$, $m(\angle C) = 65^\circ$, $m(\angle A) = 75^\circ$ then ..

- a) $AB > BC$ b) $AB < AC$ c) $BC > AB$ d) $AB = AC$

(4) If M is the point of intersection of medians of $\triangle ABC$, D is midpoint of $\overline{BC}$, then $AD =$

- a) $2 AM$ b) $4 MD$ c) $\frac{2}{3} MD$ d) $\frac{1}{2} AM$

(5) The set of numbers can be lengths of sides of triangle are

- a) $\{4, 6, 10\}$ b) $\{4, 6, 8\}$ c) $\{2, 6, 3\}$ d) $\{4, 5, 10\}$

(6) In $\triangle ABC$, $m(\angle A) + m(\angle B) < m(\angle C)$, then AB BC

- a) $<$ b) $=$ c) $>$ d) $\leq$

Q2 Complete each of the following:

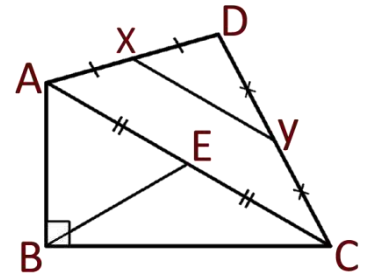
- 1)** In the isosceles triangle, if $AB = AC$, $m(\angle A) = 70^\circ$, then $AB < \dots$
- 2)** In $\triangle ABC$, if $m(\angle A) = 30^\circ$ and $m(\angle B) = 90^\circ$, then $BC = \dots AC$
- 3)** If the measure of two angles in a triangle are different, then the greater in measure of them is opposite to
- 4)** If the measure of the vertex angle of an isosceles triangle is 80° , then the measure of each of two base angle equal
- 5)** The measure of the exterior angle of the equilateral $\triangle = \dots$

Q3 A) In the opposite figure:

X is midpoint of $\overline{AD}$, Y is midpoint of $\overline{CD}$

E is midpoint of $\overline{AC}$, $m(\angle ABC) = 90^\circ$

$XY = 6$ cm. Find length of $\overline{BE}$



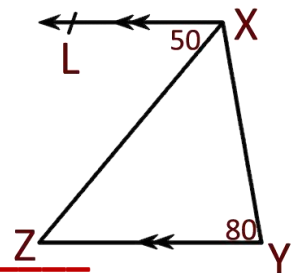
B) $\triangle ABC$, $D \in \overline{BC}$, $AD = AC$
Prove that: $AB > AD$

Q4 A) In the opposite figure:

$XL \parallel YZ$, $m(\angle Y) = 80^\circ$

$m(\angle LXZ) = 50^\circ$.

Prove that: $XY = YZ$



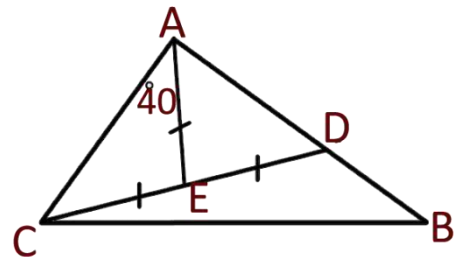
B) In the opposite figure:

$DE = EC = AE$

$m(\angle EAC) = 40^\circ$

Prove that:

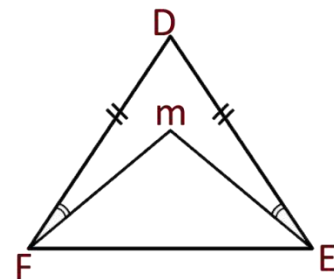
① $AC > AE$ ② $AC < BC$

**Q5 A) In the opposite figure:**

If $DE = DF$, $m(\angle DEM) = m(\angle DFM)$

Prove that:

$\overrightarrow{DM}$ is axis of symmetry of $\overline{EF}$



B) ABCD is a parallelogram, its diagonal intersect at M, draw $\overrightarrow{BX}$ median in $\triangle ABD$ cut $\overline{AD}$ in X, $\overline{AC}$ in N

Prove that: $AN = \frac{1}{3} AC$

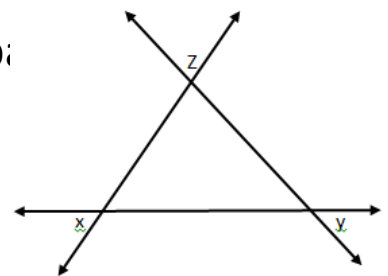
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 End of the questions

GEOMETRY – MODEL No**6****Q1** Choose the correct answer:

- (1) The number of axes of symmetry of equilateral triangle =
 a) 3 b) 2 c) 1 d) Zero
- (2) The set of numbers which can be lengths of sides of triangle are
 a) {5, 3, 8} b) {4, 6, 12} c) {2, 6, 3} d) {3, 5, 5}
- (3) In $\triangle ABC$, $m(\angle C) = 65^\circ$, $m(\angle A) = 75^\circ$ then
 a) $AB > BC$ b) $AB < AC$ c) $BC > AB$ d) $AB = AC$
- (4) If $XA = XB$ and $YA = YB$, then $\overleftrightarrow{XY} \dots\dots\dots \overline{AB}$
 a) $//$ b) $\perp$ c) $\equiv$ d) $=$
- (5) In $\triangle ABC$, if $m(\angle B) = 90^\circ$, D is midpoint of $\overline{AC}$, then $AC = \dots\dots\dots$
 a) 2 BD b) 4 BD c) $\frac{1}{2}$ BD d) $\frac{1}{3}$ AD
- (6) The measures of exterior angle of equilateral triangle =^o
 a) 60 b) 120 c) 180 d) 360

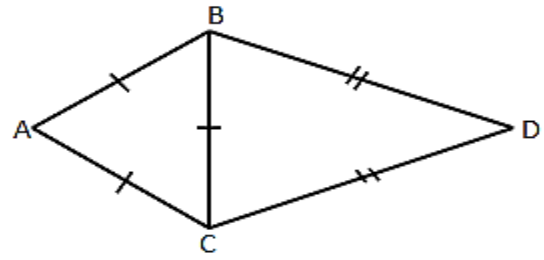
Q2 Complete each of the following:

- 1) The longest side in the right angled triangle is
- 2) The point of intersection of the medians of the triangle divides each median in the ratio 4 : from the b;
- 3) In opposite figure $X+Y+Z = \dots\dots\dots^\circ$
- 4) $\triangle ABC$ is an isosceles triangle, $m(\angle B) = 100^\circ$ then $m(\angle A) = \dots\dots^\circ$
- 5) In $\triangle ABC$ if $AB = 3$ cm, $BC = 4$ cm, $AC = X$ cm then $X \in] \dots\dots, \dots\dots [$



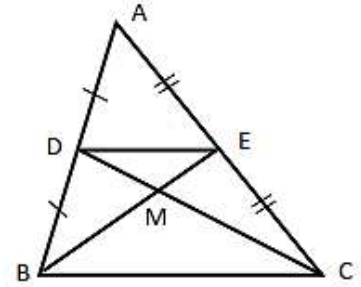
Q3 [A] In the opposite figure

$AB = AC = BC$, $BD = DC$
 $m(\angle ABD) = 130^\circ$,
Find $m(\angle D)$

**[B] In the opposite figure**

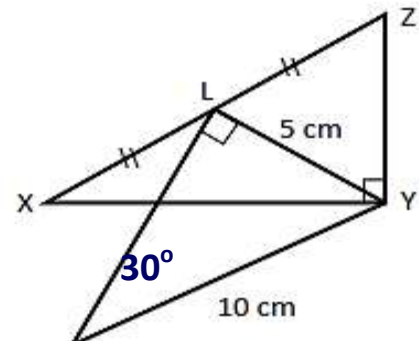
D is midpoint of $\overline{AB}$, E is midpoint of $\overline{AC}$
 $BM = 4$ cm , $MC = 6$ cm , $BC = 8$ cm

Find the perimeter of $\triangle DME$

**Q4 [A] In the opposite figure**

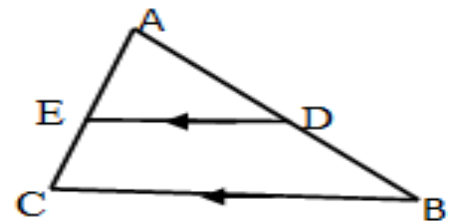
$m(\angle XYZ) = m(\angle HLY) = 90^\circ$
 $m(\angle H) = 30^\circ$, $LY = 5$ cm , $HY = 10$ cm
 L is midpoint of $\overline{XZ}$

Find the length of $\overline{XZ}$

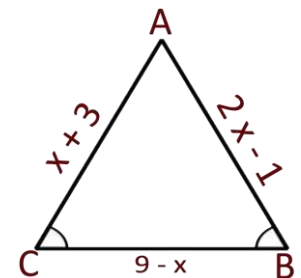
**[B] In the opposite figure**

$AB > AC$, $\overline{ED} \parallel \overline{BC}$

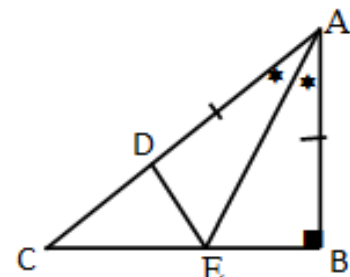
Prove that: $AD > AE$

**Q5 [A] In the opposite figure**

In $\triangle ABC$, $m(\angle B) = m(\angle C)$
 $AB = 2X - 1$, $AC = X + 3$, $BC = 9 - X$
Find the numerical value of perimeter of $\triangle ABC$

**[B] In the opposite figure**

$AB = AD$, $\overline{AE}$ bisects $\angle BAC$
 $m(\angle ABC) = 90^\circ$, **Prove that** $CE > EB$



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 End of the questions

GEOMETRY – MODEL No**7****Q1** Choose the correct answer:

- (1) If $\triangle ABC$ is right angled triangle at B, $AC = 10$ cm, $BC = 8$ cm, then the length of the median drawn from B = cm
 a) 5 b) 6 c) 8 d) 10
- (2) The point of intersection of the medians of triangle divides each of them with the ratio offrom the base
 a) 1 : 2 b) 2 : 1 c) 1 : 3 d) 3 : 1
- (3) ABCD is a rhombus in which $AC > BD$, then $m(\angle D) \dots m(\angle C)$
 a) $>$ b) $<$ c) $=$ d) $\leq$
- (4) If the length of two sides of an isosceles triangle are 3 , 7 cm. then the length of the third side = cm
 a) 3 b) 4 c) 7 d) 10
- (5) In $\triangle ABC$, $m(\angle B) = 70^\circ$, $m(\angle C) = 50^\circ$, then $BC \dots AC$
 a) $>$ b) $=$ c) $<$ d) $\leq$
- (6) $\overline{AD}$ is median in $\triangle ABC$, m is intersection point of its medians, $AD = 6$ cm, then $AM = \dots$ cm
 a) 1 b) 2 c) 3 d) 4

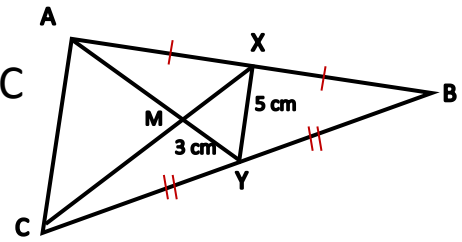
Q2 Complete each of the following:

- 1) ABC, $BC = AC$, $m(\angle A) = 2 m(\angle C)$, then $m(\angle B) = \dots$
- 2) An isosceles triangle with vertex angle = 60° , its perimeter $3\sqrt{5}$ cm, then its side length
- 3) The vertex angel bisector in the isosceles triangle bisect the base and.....
- 4) In a triangle, If its side lengths is 2 , 4, $X + 1$ then $X \in] \dots, \dots[$
- 5) The length of two sides in the triangle are not equal, then the greater side in length is opposite to

Q3 A) In the opposite figure:

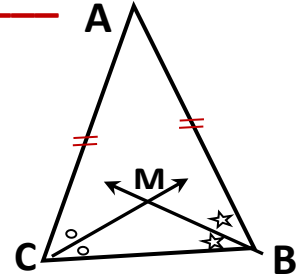
M is the intersection of the medians of $\triangle ABC$
 $XY = 5$ cm, $CX = 12$ cm, $MY = 3$ cm.

Find with prove the perimeter of $\triangle MAC$

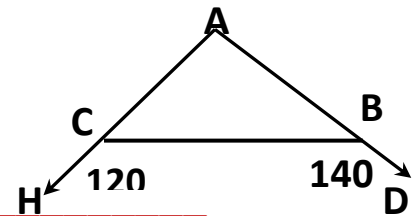
**B) In the opposite figure:**

$\triangle ABC$, $AB = AC$, $\overrightarrow{BM}$ bisect $(\angle B)$,
 $\overrightarrow{CM}$ bisect $(\angle C)$, without using the congruency

Prove that: $\overrightarrow{AM}$ is the axis of symmetry of $\overline{BC}$

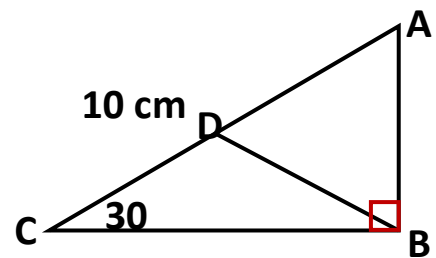
**Q4 A) In the opposite figure:**

$\triangle ABC$, $D \in \overline{AB}$, $H \in \overline{AC}$, $m(\angle CBD) = 140^\circ$
 $m(\angle BCH) = 120^\circ$. **Prove that $BC > AB$**

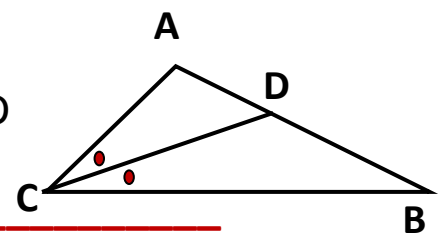
**B) In the opposite figure:**

$\triangle ABC$ right angled triangle at B
D is midpoint of $\overline{AC}$, $AC = 10$ cm,
 $m(\angle C) = 30^\circ$.

Calculate the perimeter of $\triangle ADB$

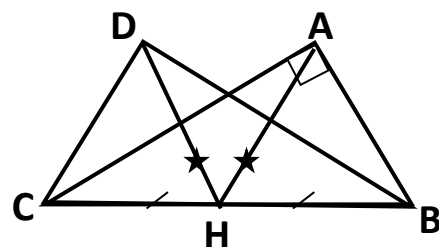
**Q5 A) In the opposite figure:**

$\triangle ABC$, $\overrightarrow{CD}$ bisect $(\angle C)$ and intersect $\overline{AB}$ in D
Prove that: $BC > BD$

**B) In the opposite figure:**

$\triangle ABC$ right angled triangle at A
H is midpoint of $\overline{BC}$, $AH = DH$

Prove that: $m(\angle BDC) = 90^\circ$



◆◆◆
 End of the questions

GEOMETRY – MODEL No**8****Q1** Choose the correct answer:

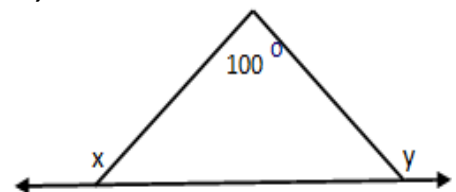
- (1) The triangle which has three axes of symmetry is
 a) scalene b) isosceles c) Right angled d) equilateral
- (2) If the lengths of two sides in an isosceles triangle are 8 cm and 4 cm then the length of the third side is cm
 a) 4 b) 8 c) 3 d) 12
- (3) In $\triangle XYZ$, $m(\angle Z) = 70^\circ$, $m(\angle Y) = 60^\circ$ then YZ XY
 a) $>$ b) $<$ c) $=$ d) Twice
- (4) If $XA = XB$ and $YA = YB$, then $\overleftrightarrow{XY}$ $\overline{AB}$
 a) $//$ b) $\perp$ c) $\equiv$ d) $=$
- (5) If M is the point of intersection of medians of $\triangle ABC$, D is midpoint of $\overline{BC}$, then $AD =$
 a) 2 AM b) 4 MD c) $\frac{2}{3}$ MD d) $\frac{3}{2}$ AM
- (6) The measures of exterior angle of equilateral triangle = $^\circ$
 a) 60 b) 120 c) 180 d) 360

Q2 Complete each of the following:

- 1) In $\triangle ABC$, if $AB = AC$, $m(\angle A) = 70^\circ$, then $AB <$
- 2) In $\triangle ABC$, if $m(\angle A) = 30^\circ$ and $m(\angle B) = 90^\circ$, then $BC =$ AC

3) In opposite figure:

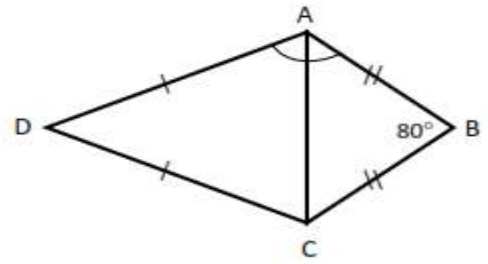
$$X + y = \text{.....}^\circ$$



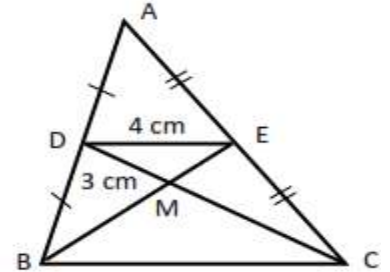
- 4) If the measure of the vertex angle of an isosceles triangle is 80° , then the measure of each of two base angles =
- 5) The longest side in the right angled triangle is

Q3 [A] In the opposite figure

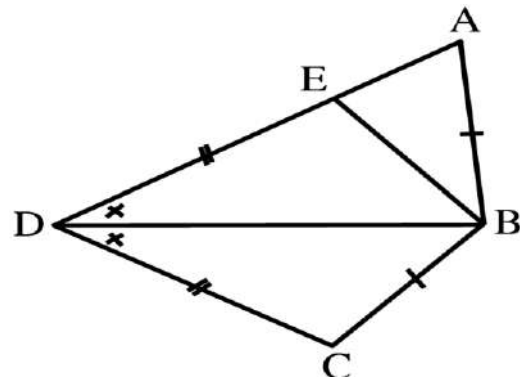
$AD = DC$, $AB = BC$
 $m(\angle B) = 80^\circ$, $m(\angle BAD) = 114^\circ$
Find $m(\angle D)$

**[B] In the opposite figure**

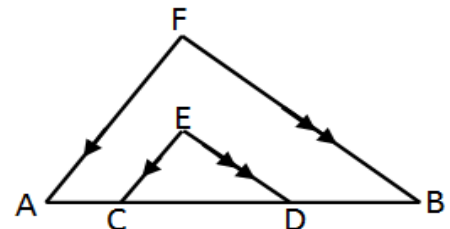
D is midpoint of $\overline{AB}$, E is midpoint of $\overline{AC}$
 $DE = 4$ cm , $DM = 3$ cm , $BE = 6$ cm
Find the perimeter of $\triangle BMC$

**Q4 [A] In the opposite figure**

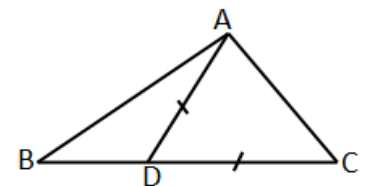
In the opposite figure
 $BA = BC$ and $DE = DC$,
 $\overline{DB}$ bisects $\angle ADC$
Prove that:
 $(\angle A) + m(\angle C) = 180^\circ$

**[B] In the opposite figure**

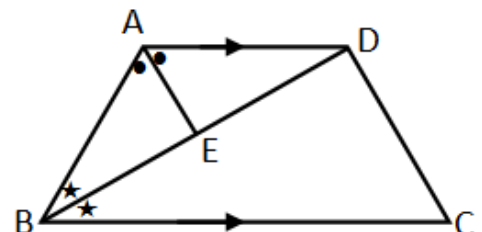
$BF > FA$, $\overline{ED} \parallel \overline{FB}$, $\overline{FA} \parallel \overline{EC}$
Prove that: $ED > EC$

**Q5 [A] In the opposite figure**

$AD = DC$ Prove that $BC > AB$

**[B] In the opposite figure**

$\overline{AD} \parallel \overline{BC}$, $\overline{BD}$ bisects $\angle ABC$
 $\overline{AE}$ bisects $\angle BAD$
Prove that: $\overline{AE} \perp \overline{BD}$



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 End of the questions

GEOMETRY – MODEL No**9****Q1** Choose the correct answer:**(1)** In $\triangle ABC$, $m(\angle A) = 3 m(\angle B)$, then $AC \dots\dots\dots BC$

- a) = b) $\equiv$ c) > d) <

(2) The numbers 5, 4, can be lengths of sides of a triangle

- a) 8 b) 9 c) 10 d) 12

(3) If $\triangle ABC$ is right angled at **B**, then.....

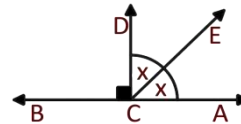
- a) $AC < AB$ b) $AC > BC$ c) $AB < AC$ d) $BC > AC$

(4) If $A > B$, $C > D$, then $A + C \dots\dots\dots B + D$

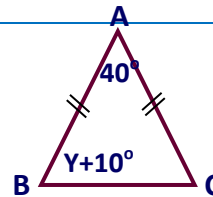
- a) > b) = c) < d) $\leq$

(5) In the opposite figure:Value of $X = \dots\dots\dots^\circ$

- a) 30 b) 45 c) 60 d) 90

**(6)** In the opposite figure:Value of $Y = \dots\dots\dots^\circ$

- a) 30 b) 40 c) 60 d) 70

**Q2** Complete each of the following:

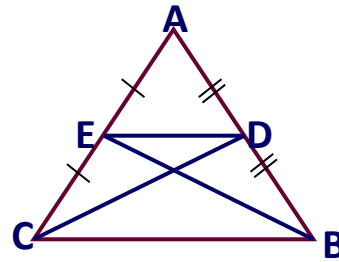
- 1) The point of intersection of the medians of the triangle divides each of them in the ratio of From the base
- 2) The base angles of the isosceles triangle are
- 3) The longest side in the right angled triangle is
- 4) In $\triangle ABC$, $m(\angle A) = 60^\circ$, $AB = BC$, then the number of axes of symmetry of $\triangle ABC = \dots$
- 5) The measure of exterior angle of the equilateral triangle is $^\circ$

Q3 [A] In the opposite figure:

$BC = 10$ cm , $MB = 5$ cm

$MC = 6$ cm

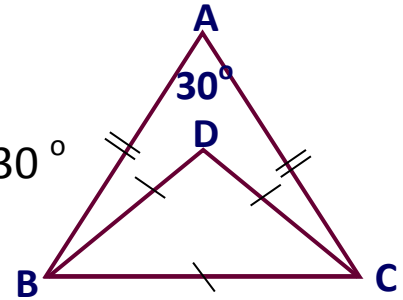
Find the perimeter of $\triangle EMD$



[B] In the opposite figure:

$AB = AC$, $\triangle BDC$ is equilateral , $m(\angle A) = 30^\circ$

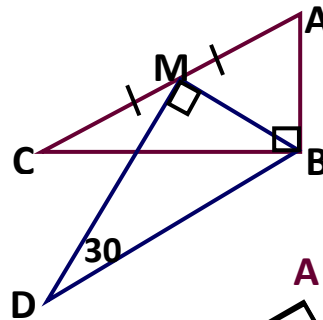
Find by proof: $m(\angle ACD)$



Q4 [A] In the opposite figure:

Prove that:

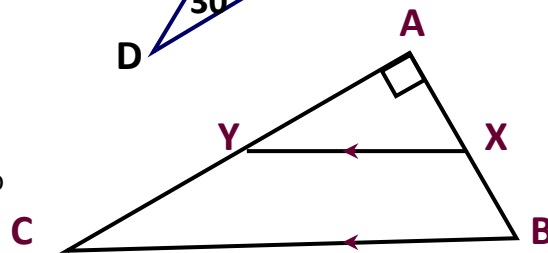
$AC = BD$



[B] In the opposite figure

$AC > AB$, $m(\angle A) = 90^\circ$

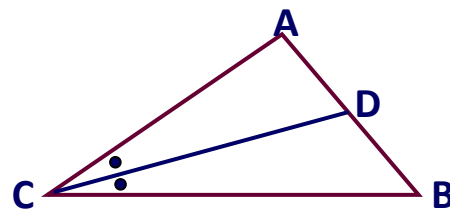
Prove that: $m(\angle AXY) > 45^\circ$



Q5 [A] In the opposite figure:

$\overline{DC}$ bisect $\angle ACB$

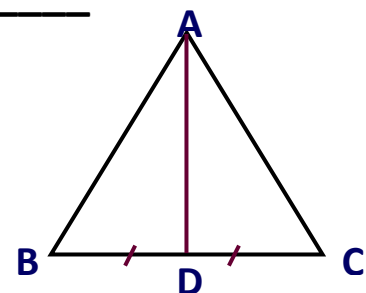
Prove that: $BC > BD$



[B] In the opposite figure

Prove that:

Perimeter of $\triangle ABC > 2 AD$



◆◆◆
End of the questions

GEOMETRY – MODEL No**10****Q1** Choose the correct answer:

(1) The point of intersection of the medians of triangle divides each median in the ratio from vertex.

- a) 1 : 2 b) 3 : 2 c) 2 : 3 d) 4 : 2

(2) In $\triangle ABC$, if $m(\angle C) = 80^\circ$, $m(\angle B) = 30^\circ$. then AC BC

- a) = b) < c) > d) $\leq$

(3) The axis of symmetry of a line segment is straight line

- a) Perpendicular to it c) Parallel to it
b) Bisects it d) Perpendicular at midpoint

(4) In any triangle, $XY + YZ - XZ$ zero

- a) > b) < c) = d) $\leq$

(5) An isosceles triangle in which the lengths of two of its sides are 4 cm and 9 cm then the length of the third side equals

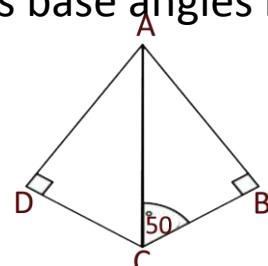
- a) 4 b) 5 c) 9 d) 13

(6) If $AB \cap CD = \emptyset$, then AB , CD are

- a) Coincides b) Perpendicular c) Intersecting d) Parallel

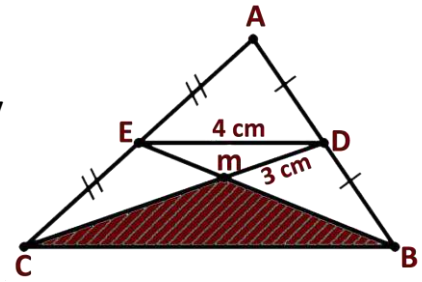
Q2 Complete each of the following:

- If measure of an angle of an isosceles is 60° , then the triangle....
- The bisector of vertex in an isosceles triangle,
- In $\triangle XYZ$, if $m(\angle X) = 50^\circ$, $m(\angle Y) = 60^\circ$, then the triangle has Axes of symmetry
- In isosceles triangle, if the measure of one of its base angles is 40° , then the measure of its vertex $^\circ$
- In the opposite figure:
 $\triangle ABC \equiv \triangle ACD$, $m(\angle CAD) =$

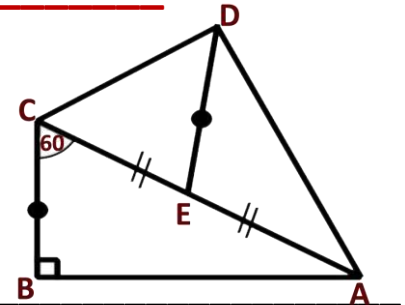


Q3 A) In the opposite figure:

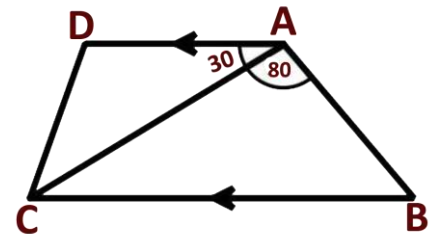
D, E are midpoints of $\overline{AB}$, $\overline{AC}$ respectively
 $\overline{BE} \cap \overline{CD} = \{m\}$. if $DE = 4$ cm, $DM = 3$ cm
 $BE = 6$ cm. Find perimeter of $\triangle BMC$

**B) In the opposite figure:**

$m(\angle B) = 90^\circ$, $m(\angle ACB) = 60^\circ$
 $\overline{DE}$ is median in $\triangle DAC$, $BC = DE$
 Prove that: $m(\angle ADC) = 90^\circ$

**Q4 A) In the opposite figure:**

$\overline{AD} \parallel \overline{BC}$, $m(\angle BAC) = 80^\circ$,
 $m(\angle DAC) = 30^\circ$
 Prove that: $BC > AC$

**B) In the opposite figure:**

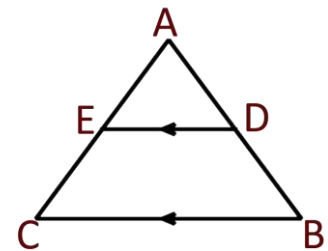
Arrange ascending the measures of $\triangle ABC$ where: $AC = 12$ cm,
 $BC = 13$ cm, perimeter of $\triangle ABC = 30$ cm

Q5 A) In the opposite figure:

$\triangle ABC$, $\overline{DE} \parallel \overline{BC}$, $AD = AE$

Prove that:

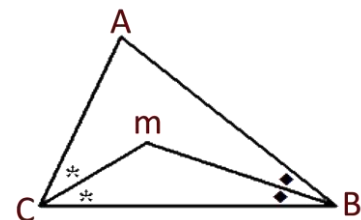
- ① $AB = AC$ ② $DB = EC$

**B) In the opposite figure:**

$\triangle ABC$, $AC > AB$

$\overline{BM}$ bisects $(\angle ABC)$, $\overline{CM}$ bisects $(\angle ACB)$

Prove that: $MC < MB$



◆◆◆
 End of the questions

Model exam

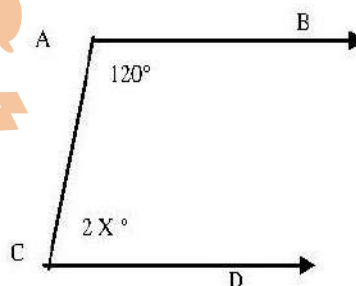
2- Choose the correct answer :

- 1) The angle whose measure 50° complements the angle whose measure $^\circ$
 a) 40° b) 130° c) 50° d) 180°
- 2) The measure of the vertically opposite angle of an angle of measure 70° is $^\circ$
 a) 20° b) 70° c) 110° d) 290°
- 3) A B C is an aright angled triangle at B , A B = 3 cm , B C = 4 cm then $(A C)^2 = \dots \text{ cm}^2$
 a) 2.5 b) 16 c) 5 d) 25
- 4) If $L_1 \parallel L_2$ and $L_1 \perp L_3$ then
 a) $L_1 \parallel L_3$ b) $L_2 \perp L_3$ c) $L_1 \perp L_2$ d) L_1 intersects L_2
- 5) $\overline{A B} \dots\dots\dots \overrightarrow{A B}$
 a) $\in$ b) $\notin$ c) $\subset$ d) $\not\subset$

6) In the opposite figure :

$\overrightarrow{A B} \parallel \overrightarrow{C D}$ then $x = \dots\dots\dots$

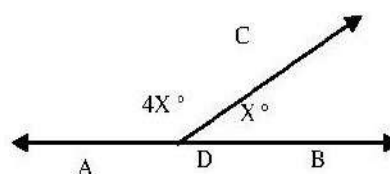
- a) 120° b) 100° c) 60° d) 30°



2- Complete :

- a) The angle whose measure is 70° supplementary the angle whose measure is $^\circ$
- b) If $m(\angle A B C) = 120^\circ$ then $m(\text{reflex } \angle A B C) = \dots\dots\dots^\circ$
- c) If $\triangle A B C \cong \triangle X Y Z$ then $A C = \dots\dots\dots$
- d) If a st. line intersects one of two parallel st. lines then
- e) The sum of measure of the accumulative angles at a point equals $^\circ$
- f) In the opposite figure :

$D \in \overleftrightarrow{A B}$ then $X = \dots\dots\dots^\circ$



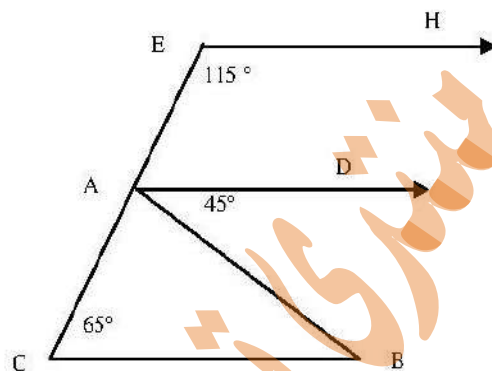
3- a) In the opposite figure :

$A \in \overline{CE}$, $\overrightarrow{EH} \parallel \overrightarrow{AD}$, $m(\angle E) = 115^\circ$,

$m(\angle BAD) = 45^\circ$, $m(\angle C) = 65^\circ$

(i) is $\overrightarrow{EH} \parallel \overrightarrow{CB}$? Why?

(ii) Find : $m(\angle CAB)$

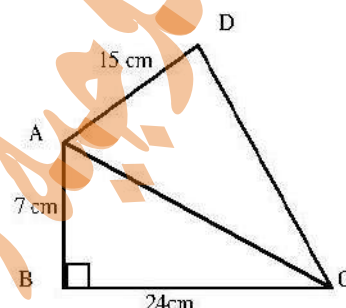


b) In the opposite figure:

$m(\angle B) = 90^\circ$, $m(\angle D) = 90^\circ$

$AB = 7 \text{ cm}$, $BC = 24 \text{ cm}$, $AD = 15 \text{ cm}$

Find $(CD)^2$



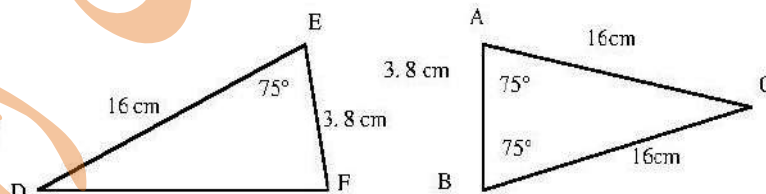
4- a) Using the geometric instruments draw $\triangle ABC$ in which $AB = AC = 5 \text{ cm}$ and

$BC = 6 \text{ cm}$ draw $\overrightarrow{AD} \perp \overline{BC}$ to cut BC at D . Find the length of $\overline{AD}$ and the area of $\triangle ABC$

b) In the opposite figure :

Prove that : $\triangle ABC \equiv \triangle EFD$

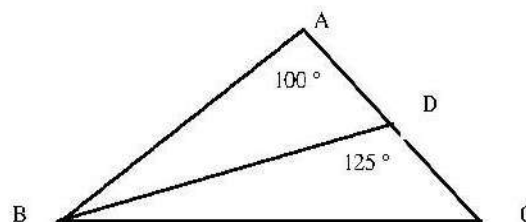
and find : $m(\angle D)$ and DF



5- a) In the opposite figure :

$m(\angle A) = 100^\circ$, $\overline{BD}$ bisects $(\angle CBA)$,

$m(\angle BDC) = 125^\circ$ find : $m(\angle C)$

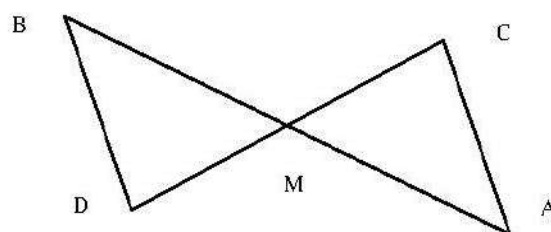


b) In the opposite figure :

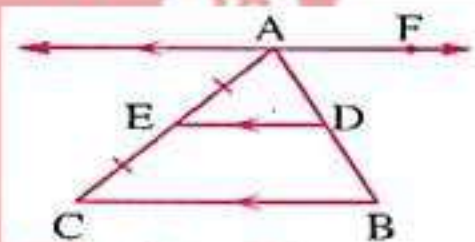
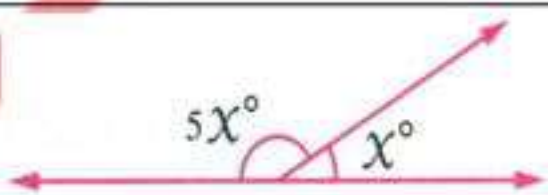
$\overline{AB} \cap \overline{CD} = \{M\}$, $AM = BM$ and

$CM = DM$

is $\triangle AMC \equiv \triangle BMD$? Why?



Exam (1)

1	The measure of each of two equal complementary angles equals (180° , 45° , 360° , 90°)
2	If two straight lines intersect, then each two angles have the same measure (vertically opposite , adjacent , alternate , corresponding)
3	If $\Delta ABC \equiv \Delta LMN$, then $m(\angle ACB) = m(\angle \dots)$ (LMN , MLN , LNM , NLM)
4	$\overrightarrow{AB} \cup \overrightarrow{AC} = \dots$ ($\overrightarrow{AB}$, $\angle ABC$, $\angle BAC$, $\emptyset$)
5	Two adjacent angles formed by a straight line and a ray with a starting point on this straight line are (equal in measure , complementary , supplementary , adjacent)
6	If straight lines cuts two parallel lines then each two corresponding angles are (supplementary , complementary , equal in measure , right)
7	If two straight lines are perpendicular to a third, then the two straight lines are (intersecting , congruent , parallel , perpendicular)
8	$\overrightarrow{AF} \parallel \overrightarrow{DE} \parallel \overrightarrow{BC}$, $AE = EC$, then $AD : AB = \dots$ ($2 : 1$, $3 : 2$, $1 : 3$, $1 : 2$) 
9	If the two adjacent angles are complementary, then their outer sides
10	If $m(\angle A) = 125^\circ$, then $m(\text{reflex } \angle A) = \dots$
11	Two angles are congruent if
12	The perpendicular bisector of a line segment is called
13	the value of $x = \dots$ 

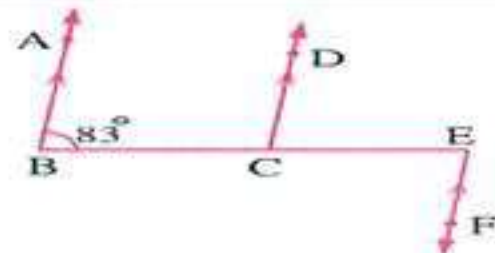
1

$$\overrightarrow{BA} \parallel \overrightarrow{CD} \parallel \overrightarrow{EF}$$

$$, m(\angle ABC) = 83^\circ$$

Find with giving the reason :

$$m(\angle DCE), m(\angle CEF)$$



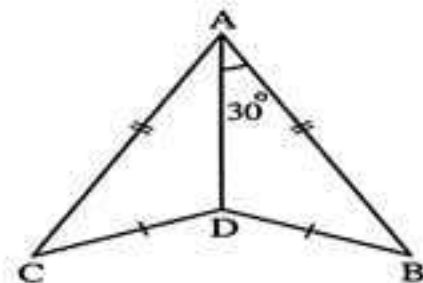
2

$$AB = AC, BD = CD$$

$$, m(\angle BAD) = 30^\circ$$

(1) Does $\triangle ADC \cong \triangle ADB$? Why ?

(2) Find : $m(\angle BAC)$

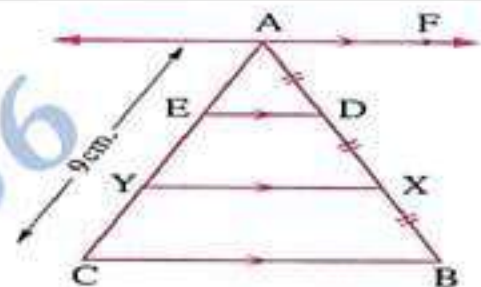


3

$$\overrightarrow{AF} \parallel \overrightarrow{ED} \parallel \overrightarrow{YX} \parallel \overrightarrow{CB}$$

$$, AD = DX = XB$$

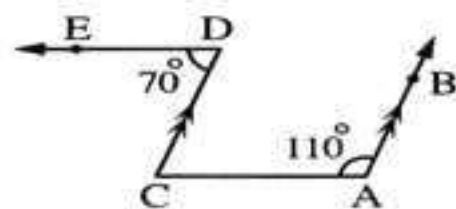
, $AC = 9$ cm. Find : The length of $\overline{AY}$



4

$$\overrightarrow{AB} \parallel \overrightarrow{CD}, m(\angle D) = 70^\circ, m(\angle A) = 110^\circ$$

Does : $\overrightarrow{AC} \parallel \overrightarrow{DE}$? Why ?

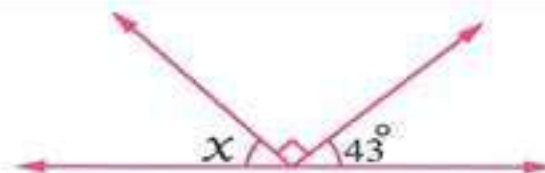


5	$\overrightarrow{CD} \parallel \overrightarrow{BA}$, $m(\angle C) = 90^\circ$, $\overrightarrow{BH}$ bisects $\angle ABO$ Find : $m(\angle OBH)$, give reason. 	
6	mention two cases of congruency of two triangles	

Exam (2)

1	the two angles of measures 40 , 50 are (complementary , supplementary , reflex , obtuse)	
2	in the opposite figure : $x = \dots\dots\dots$ (a) 5 (b) 60 (c) 25 (d) 45	
3	If $m(\angle X) = 2m(\angle Y)$, $\angle X$ and $\angle Y$ are two supplementary angles , then $m(\angle Y) = \dots\dots\dots$ (90° , 120° , 30° , 60°)	
4	If $\overline{AB} \equiv \overline{CD}$ and $AB = 4 \text{ cm}$, then $AB + 2CD = \dots\dots\dots \text{Cm}$. (10 , 4 , 8 , 12)	
5	If $m(\angle A) = 110^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots$ (70° , 360° , 250° , 150°)	
6	The sum of measures of accumulative angles at point equal the sum of measures of angles (360° , 4 right , 90° , 5 right)	
7	If two triangles ABC and XYZ are congruent , then ($BC = XZ$, $YX = CA$, $ZY = CB$, $AB = YZ$)	
8	Two complementary angles are two angles whose sum of their measures is (90° , 180° , 100° , 45°)	

9	if $\overleftrightarrow{AB} \cap \overleftrightarrow{CD} = \emptyset$, then $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are
10	if the area of a rectangle is 20 cm^2 , its width is 4 cm , then the perimeter of the rectangle is cm
11	If $L_1 \perp L_2$ and $L_2 \parallel L_3$, then L_1 L_3
12	the value of $x =$
13	$\overrightarrow{AB} \cup \overrightarrow{AC} = \angle$



Answer the following

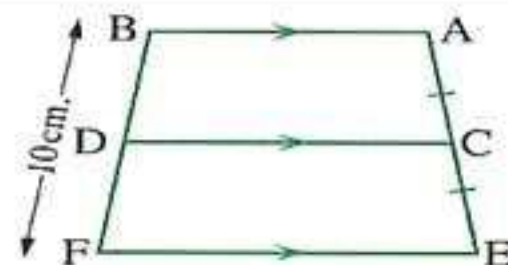
1	$\overrightarrow{BD}$ bisects $\angle ABC$, $m(\angle DBC) = 35^\circ$ $m(\angle BDC) = 120^\circ$ Find : $m(\angle C)$, $m(\angle ABC)$ and $m(\angle A)$ 	
2	$\overrightarrow{AB} \parallel \overrightarrow{CD} \parallel \overrightarrow{EF}$ $m(\angle EAB) = 112^\circ$ $m(\angle CEF) = 36^\circ$ Find : $m(\angle AEC)$, $m(\angle C)$ 	

3

$$\overline{AB} \parallel \overline{CD} \parallel \overline{EF}$$

$$, AC = CE, BF = 10 \text{ cm.}$$

Find by reason : The length of $\overline{BD}$

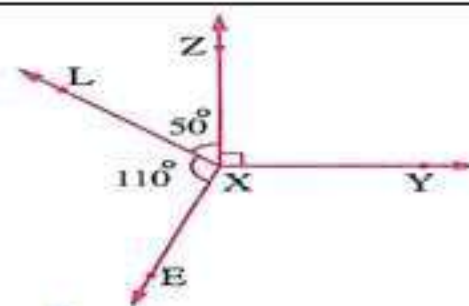


4

$$m(\angle YXZ) = 90^\circ, m(\angle ZXL) = 50^\circ$$

$$\text{and } m(\angle LXE) = 110^\circ$$

Find with giving the reason : $m(\angle YXE)$



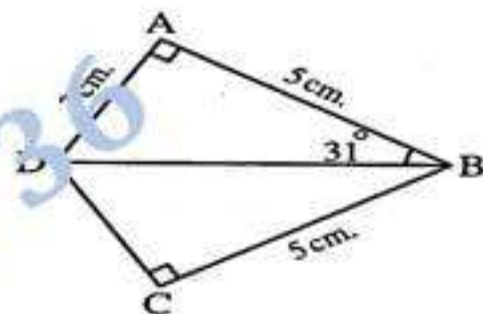
5

$$m(\angle A) = m(\angle C) = 90^\circ, m(\angle ABD) = 31^\circ,$$

$$AB = CB = 5 \text{ cm.}, AD = 3 \text{ cm.}$$

① Is $\triangle ABD \cong \triangle CBD$? Why

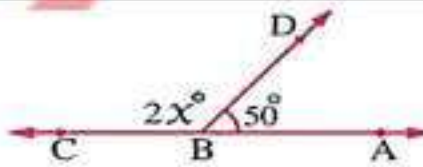
② Find : $m(\angle ADC)$



6

Draw $\overline{AB}$ where $AB = 5 \text{ cm}$,using ruler and compasses draw the axis of symmetry of $\overline{AB}$ (Do not remove the arcs)

Exam (3)

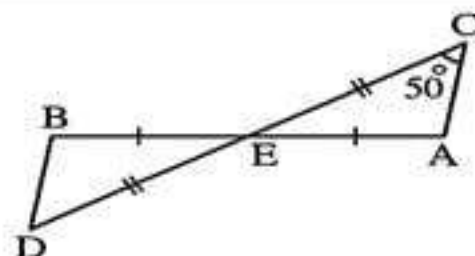
1	$\overleftrightarrow{XY} \dots\dots\dots \overleftrightarrow{XY}$	($\in$ or $\subset$ or $\notin$ or $\not\subset$)
2	The acute angle supplements angle (an obtuse , an acute , a reflex)	
3	The two straight lines parallel to a third straight line are (intersecting , congruent , parallel , perpendicular)	
4	If straight lines intersects two parallel straight lines ,then each two interior angles in the same side of the transversal are (supplementary , complementary , equal in measure , right)	
5	The axis of symmetry of a line segment is (perpendicular from mid point , equal to it , parallel to it , congruent to it)	
6	The two bisector of two adjacent supplementary angles (parallel , perpendicular , coincident , congruent)	
7	If the two outer sides of two adjacent angles are on the same straight line ,then these two adjacent angles are	
8	The type of the angle of measure $179^\circ 60'$ is	
9	The two line segment are congruent if	
10	If $\Delta ABC \equiv \Delta XYZ$, $m(\angle A) + m(\angle B) = 115^\circ$, then $m(\angle Z) = \dots\dots\dots$	
11	If $\angle B$ complement $\angle A$ and $\angle B \equiv \angle A$, then $m(\angle B) = \dots\dots\dots$	
12	The two adjacent angles formed by intersecting of a straight line and a ray with a start point on this straight line are	
13	$\overleftrightarrow{AC} \cap \overleftrightarrow{BD} = \{B\}$, $m(\angle ABD) = 50$ $m(\angle DBC) = 2x$, find the value of x 	

1

$$\overline{AB} \cap \overline{CD} = \{E\},$$

$$AE = BE, CE = DE, m(\angle C) = 50^\circ$$

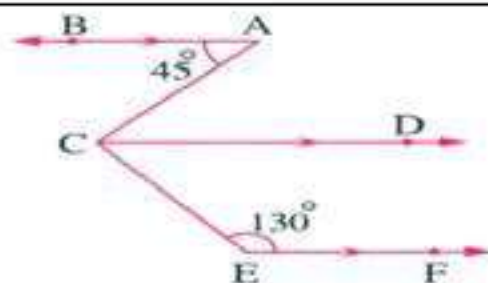
① Is $AC = BD$? Why? ② Find : $m(\angle D)$



2

$$\overrightarrow{AB} \parallel \overrightarrow{CD} \parallel \overrightarrow{EF}, m(\angle A) = 45^\circ, m(\angle E) = 130^\circ$$

Find : $m(\angle ACE)$



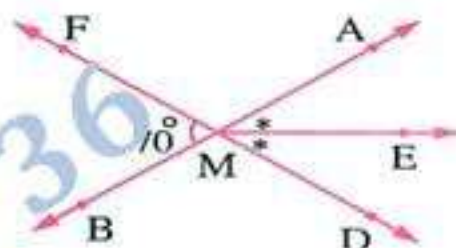
3

$$\overline{AB} \cap \overline{DF} = \{M\}, \overline{ME} \text{ bisects } \angle AMD$$

$$, m(\angle FMB) = 70^\circ$$

Find : ① $m(\angle AMF)$ ② $m(\angle AMD)$

③ $m(\angle DME)$

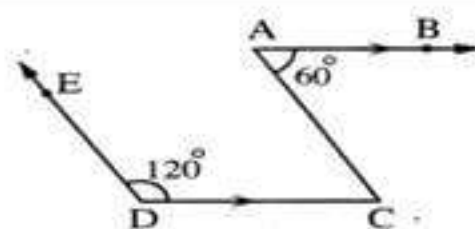


4

$$\overline{AB} \parallel \overline{DC}, m(\angle BAC) = 60^\circ, m(\angle CDE) = 120^\circ$$

① Find giving reason : $m(\angle ACD)$

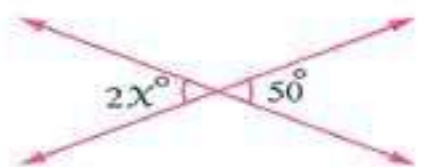
② Is $\overline{DE} \parallel \overline{CA}$? why?



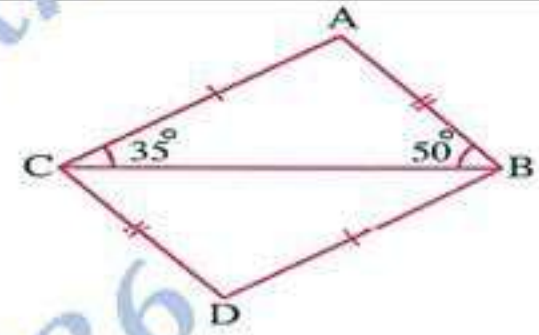
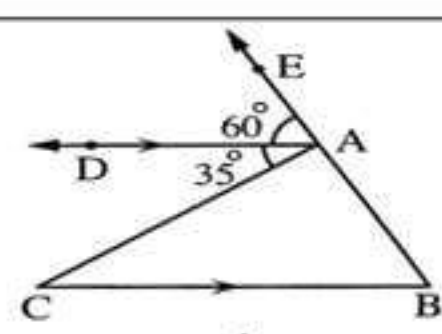
5	$\overrightarrow{AB} \parallel \overrightarrow{CD} \parallel \overrightarrow{EF}$, $AC = CE$, $DB = 5$ cm. Find : The length of $\overline{BF}$, by giving the reason. 	
6	By using your geometric instruments , draw $\angle ABC$ of measure 110° , then draw $\overrightarrow{BF}$ to bisect the angle	

Exam (4)

1	The type of the angle of measure $89^\circ 60'$ is (an obtuse , an acute , a right , a straight)
2	the angle of measure 70° is vertically opposite to an angle of measure (20° , 110° , 70° , 360°)
3	If $\triangle ABC \cong \triangle XYZ$, $m(\angle A) + m(\angle B) = 100^\circ$, then $m(\angle Z) =^\circ$ (50° , 80° , 90° , 100°)
4	the angle of measure x complements the angle of measure ($180 - x$, $90 - x$, $360 - x$, $90 + x$)
5	The measure of the supplement of the angle whose measure 30° = (60° , 180° , 90° , 150°)
6	The whose measure is more than 90° and less than 180° is angle (an obtuse , an acute , a right , a straight)
7	If L_1 , L_2 and L_3 are straight lines , $L_1 \perp L_3$, $L_2 \perp L_3$, then L_1 L_2 ($\parallel$, $\perp$, coincides , intersects)
8	If the two adjacent angles are supplementary , then their outer sides

9	If $\Delta ABC \equiv \Delta XYZ$, $m(\angle B) = 80^\circ$, $m(\angle Z) = 40^\circ$, then $m(\angle A)$ =
10	The right angle complements angle and supplements angle
11	If a straight lines intersects two parallel straight lines ,then every two alternate angles are
12	the value of $x =$ 
13	if $\angle X \equiv \angle Y$, $\angle X, \angle Y$ are supplementary angles ,then $m(\angle X) =$

Answer the following

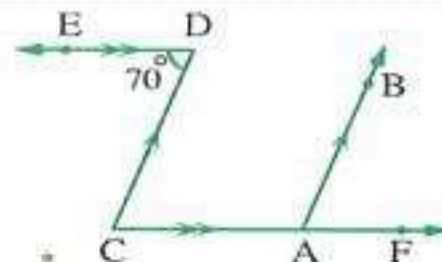
1	$AC = BD$, $AB = CD$, $m(\angle ABC) = 50^\circ$ and $m(\angle ACB) = 35^\circ$ (1) Study the congruence of ΔABC and ΔDCB (2) Find : $m(\angle D)$ 
2	$\overrightarrow{AD} \parallel \overrightarrow{BC}$, $m(\angle DAC) = 35^\circ$, $m(\angle EAD) = 60^\circ$ Find the measure of the interior angles of ΔABC 

3

$$\overrightarrow{AB} \parallel \overrightarrow{CD}, \overrightarrow{DE} \parallel \overrightarrow{CA}$$

$$\text{and } m(\angle EDC) = 70^\circ$$

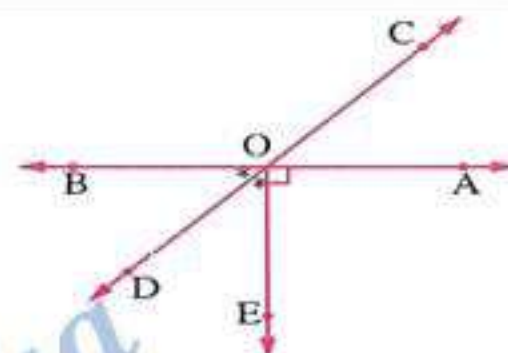
Find : $m(\angle DCA)$ and $m(\angle BAF)$ (Give reason)



4

$\overrightarrow{OD}$ bisects $\angle BOE$, $\overrightarrow{AB} \cap \overrightarrow{CD} = \{O\}$

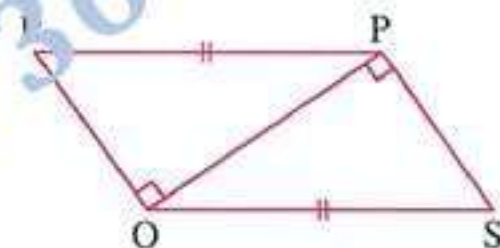
$$, m(\angle AOE) = 90^\circ \text{ Find : } m(\angle AOC)$$



5

Prove that (1) $\triangle ROP = \triangle SPO$

$$(2) m(\angle RPS) = m(\angle SOR)$$

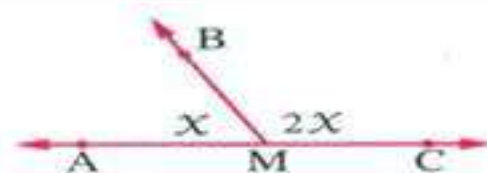


6

Draw angle of measure 120° and divide it four equal angles in measure using a ruler and compasses (Don't remove the arcs)

Exam (5)

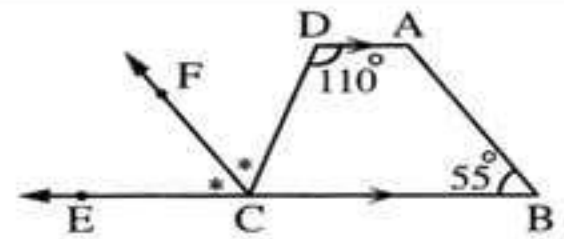
1	if $\angle A$ complements $\angle B$, $\angle B$ complements $\angle C$, then $m(\angle A) \dots\dots\dots m(\angle C)$ ($>$, $<$, $=$, $\leq$)
2	the ratio between the measures of two supplementary angles is $4 : 5$, then the measure of the greater angle is (80 , 90 , 100 , 120)
3	if $\overrightarrow{XY}$ bisects $\angle LXN$, $m(\angle LXY) = 60$, $m(\angle LXN) = \dots\dots\dots$ (30 , 60 , 120 , 360)
4	The type of the angle of measure $179^\circ 61'$ is (an obtuse , an acute , a reflex , a straight)
5	The sum of measures of the accumulative angles at a point = (630° , 180° , 90° , 360°)
6	If $\triangle ABC \cong \triangle XYZ$, $m(\angle A) = 50^\circ$, $m(\angle Y) = 60^\circ$, then $m(\angle C)$ $= \dots\dots\dots$ (50° , 60° , 70° , 80°)
7	the triangle whose perimeter is 12 cm and the lengths of its two sides 2 cm , 5 cm is called (isosceles , equilateral , right , scalene)
8	if $\overline{XY} \cong \overline{AB}$, $XY = 5\text{cm}$, then $XY + 3AB = \dots\dots\dots$ (5 , 20 , 15 , 30)
9	the right angle supplements an angle of measure
10	two triangles are congruent if each of one triangle is equal to the corresponding part of the other triangle
11	if an angle of measure 57 complements an angle of measure $3x$, then $x = \dots\dots\dots$
12	the square has axes of symmetry
13	the value of $x = \dots\dots\dots$



1

$\overrightarrow{AD} \parallel \overrightarrow{BC}$, $\overrightarrow{CF}$ bisects $\angle DCE$, $m(\angle B) = 55^\circ$, $m(\angle D) = 110^\circ$

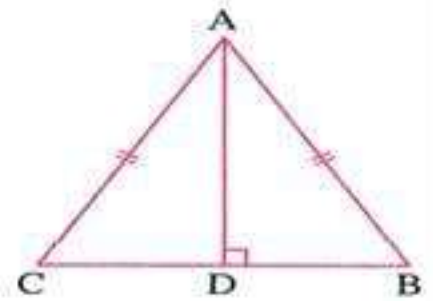
Prove that : $\overrightarrow{AB} \parallel \overrightarrow{CF}$



2

ABC is an isosceles triangle
and $\overrightarrow{AD} \perp \overrightarrow{BC}$

Why does $m(\angle C) = m(\angle B)$?

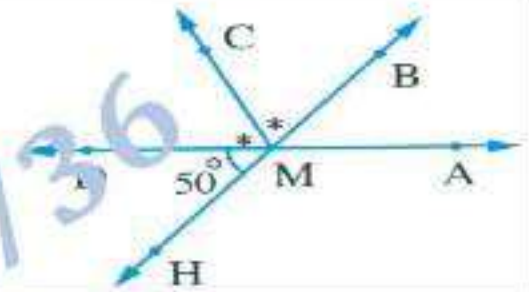


3

$\overleftrightarrow{AD} \cap \overleftrightarrow{BH} = \{M\}$, $m(\angle HMD) = 50^\circ$

$\overrightarrow{MC}$ bisects $\angle BMD$

find : $m(\angle AMC)$

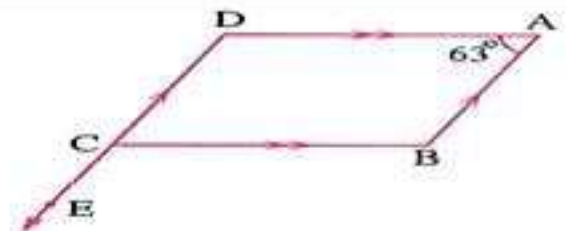


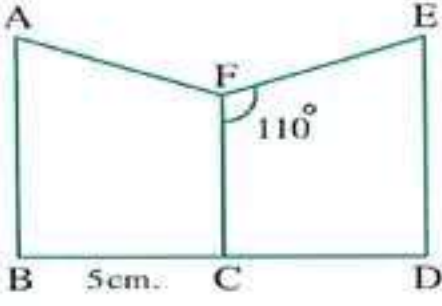
4

$\overrightarrow{AB} \parallel \overrightarrow{DC}$, $\overrightarrow{AD} \parallel \overrightarrow{BC}$

, $m(\angle BAD) = 63^\circ$

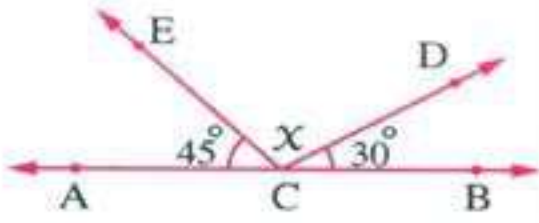
Find : $m(\angle BCE)$ (Showing the steps)



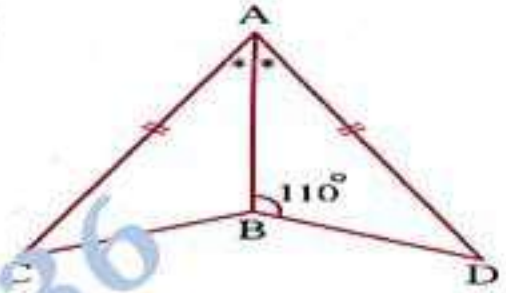
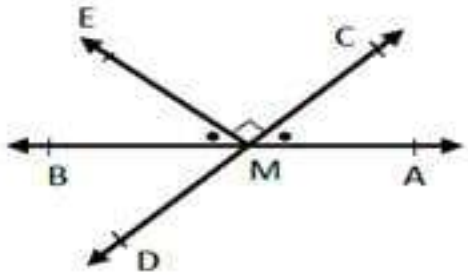
5	The polygon $\triangle ABCF \equiv$ the polygon $\triangle EDCF$ $m(\angle EFC) = 110^\circ$, $BC = 5$ cm. Find : 1 $m(\angle AFC)$, $m(\angle AFE)$, $m(\angle FCB)$ 2 The length of $\overline{BD}$ 	
6	using the geometric instruments , draw $\triangle ABC$ in which $BC = 6$ cm , $AB = AC = 5$ cm , then draw $\overline{AD} \perp \overline{BC}$ where $\overline{AD} \cap \overline{BC} = \{D\}$, find the length of AD (Don't remove the arcs)	

Exam (5)

1	The right angle complements angle whose measure is (0° , 45° , 90° , 180°)
2	If $\triangle ABC \equiv \triangle DEF$, the perimeter of $\triangle ABC = 18$ cm , $BC = 6$ cm , then $DE + DF = \dots\dots\dots$ cm (6 , 12 , 3 , 24)
3	the rectangle has lines of symmetry (zero , 2 , 3 , 4)
4	the two diagonals are perpendicular in (rectangle , parallelogram , rhombus , trapezium)
5	if $\overline{AB} \equiv \overline{CD}$, then $AB + CD = \dots\dots\dots$ (1 , 0 , $2AB$, CD)
6	$m(\angle A) + m(\text{reflex } \angle A) = \dots\dots\dots$ (360 , 180 , 45 , 360)
7	the two vertically opposite angles are (corresponding , congruent , supplementary , alternate)
8	if the ratio between the measures of two supplementary angles is $1 : 5$, then the measure of the greater angle is (15 , 80 , 75 , 150)

9	the value of $x = \dots\dots\dots$	
10	two triangles are congruent if two sides and of one triangle are congruent to the corresponding parts of the other triangle	
11	if a straight line intersects two parallel straight lines ,then each two corresponding angles are	
12	the axis of symmetry of a line segment is	
13	the two diagonals are perpendicular in and	

Answer the following

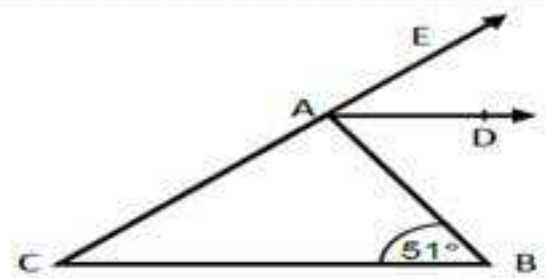
1	$AD = AC$, $\overline{AB}$ bisects $\angle CAD$ (1) Prove that : $\triangle ACB \cong \triangle ADB$ (2) If $m(\angle APD) = 10^\circ$, find : $m(\angle CBD)$ 	
2	$\overline{AB} \cap \overline{CD} = \{ M \}$, $m(\angle CME) = 90^\circ$, $m(\angle AMC) = m(\angle EMB)$ Find: $m(\angle AMC)$, $m(\angle BMD)$, $m(\angle AMD)$ 	

3

$\overrightarrow{AD} \parallel \overrightarrow{CB}$, $\overrightarrow{AD}$ bisects $\angle BAE$

and $m(\angle B) = 51^\circ$

Find: $m(\angle BAD)$, $m(\angle C)$

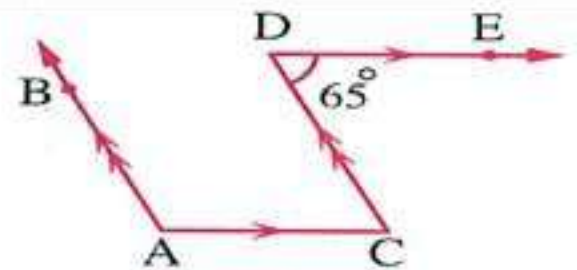


4

$\overrightarrow{AB} \parallel \overrightarrow{CD}$, $\overrightarrow{DE} \parallel \overrightarrow{AC}$

, $m(\angle D) = 65^\circ$

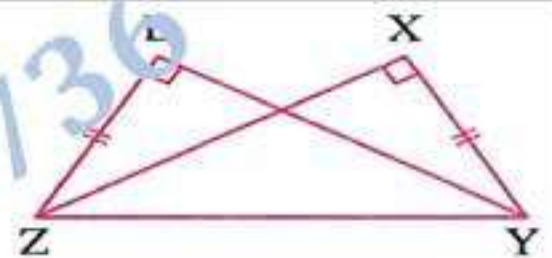
Find : $m(\angle C)$, $m(\angle A)$ (Show your steps)



5

$m(\angle X) = m(\angle L) = 90^\circ$, $XZ = ZL$

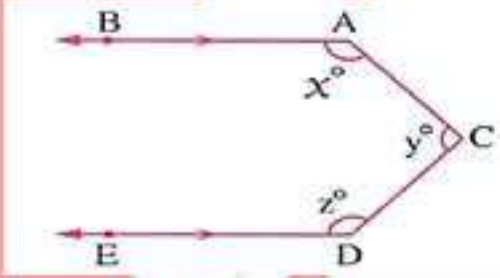
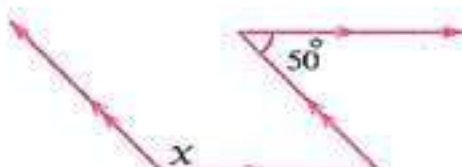
Why $\triangle XYZ \cong \triangle LZY$? (Give reasons)



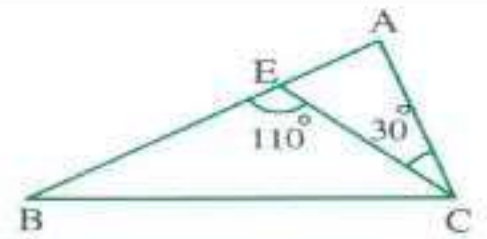
6

Draw $\overline{XY}$ where $\overline{XY} = 6 \text{ cm}$, using ruler and compasses draw the axis of symmetry of $\overline{XY}$ (Do not remove the arcs)

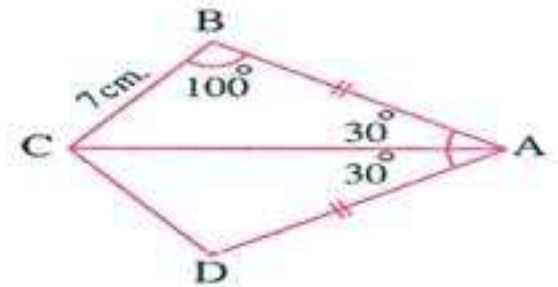
Exam (7)

1	if $\triangle ABC \equiv \triangle LMN$, then $m(\angle ACB) = m(\angle \dots \dots)$ (LMN , MLN , $LN M$, NLM)
2	Any two line segments are congruent if they are equal in (<i>measure</i> , <i>capacity</i> , <i>weight</i> , <i>length</i>)
3	if $m(\angle A) = 2m(\angle B)$, $\angle A$ complements $\angle B$, then $m(\angle A) = \dots\dots\dots$ (15 , 30 , 45 , 60)
4	A square of side length 7 cm , then its area = cm^2
5	the two diagonals are equal in length and perpendicular in (<i>rectangle</i> , <i>parallelogram</i> , <i>rhombus</i> , <i>square</i>)
6	if $AB = CD$, then $\overline{AB} \dots\dots\dots \overline{CD}$ (= , <i>bisects</i> , $\perp$, $\equiv$)
7	the measure of each of the two equal complementary angles = (180 , 45 , 360 , 90)
8	the acute angle complements angle (<i>an acute</i> , <i>a right</i> , <i>an obtuse</i> , <i>a straight</i>)
9	in the opposite figure : $\overrightarrow{AB} \parallel \overrightarrow{DE}$, then $x + y + z = \dots\dots\dots$
	
10	the perpendicular to one of two coplaner parallel straight line is to the other
11	A circle of radius 7 cm , then its area = cm^2 ($\pi = \frac{22}{7}$)
12	Two triangles are congruent if two angles and
13	the value of $x = \dots\dots\dots$
	

- 1 $m(\angle ACE) = 30$, $m(\angle CEB) = 110$
find $m(\angle A)$

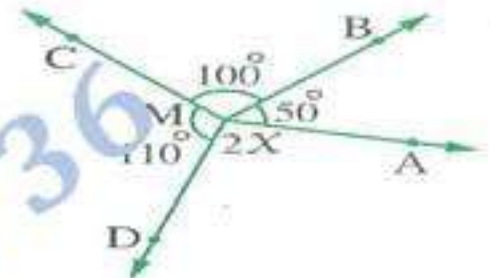


- 2 $AB = AD$, $BC = 7$ cm., $m(\angle B) = 100^\circ$
and $m(\angle BAC) = m(\angle DAC) = 30^\circ$

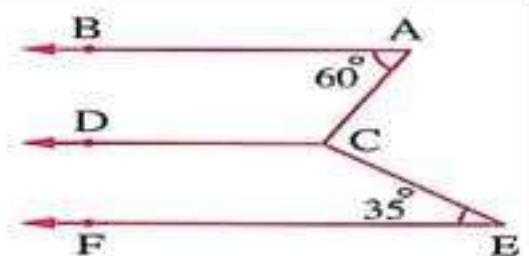


- (1) Is $\triangle BAC \cong \triangle DAC$? Why?
(2) Find : $m(\angle ACD)$ and the length of $\overline{CD}$

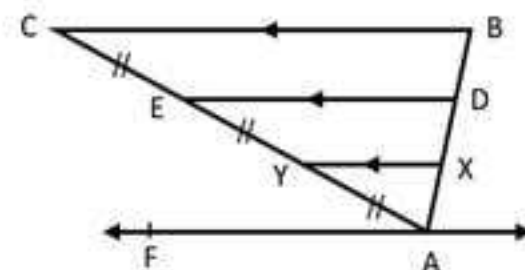
- 3 find the value of x (give the reason)



- 4 $\overline{AB} \parallel \overline{CD}$, $\overline{AB} \parallel \overline{EF}$, $m(\angle A) = 60^\circ$
 $m(\angle E) = 35^\circ$ Find : $m(\angle ACE)$

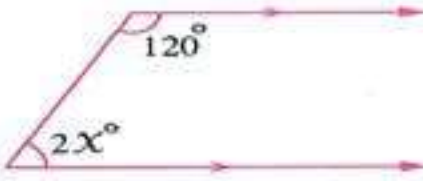


- 5 $\overrightarrow{AF} \parallel \overrightarrow{XY} \parallel \overrightarrow{DE} \parallel \overrightarrow{BC}$ and $AY = YE = EC$,
 $AY = 3$ cm , $AX = 2$ cm ,
the perimeter of $\triangle ABC = 23$ cm find BC

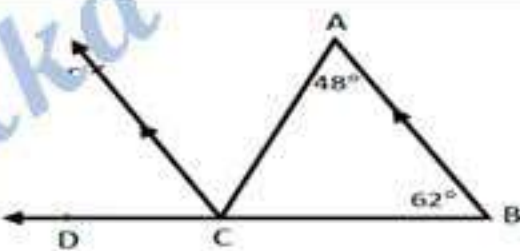
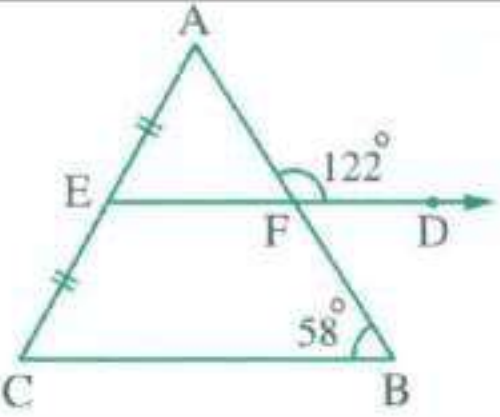


Exam (8)

1	if $\angle A$ complements $\angle B$, $\angle B$ supplements $\angle C$, $m(\angle A) = 35$, then $m(\angle C) = \dots\dots\dots$ (55 , 145 , 125 , 130)
2	If $m(\angle X) + m(\angle Y) = 180^\circ$, then $\angle X$ and $\angle Y$ are (equal in measure , complementary , supplementary , adjacent)
3	the image of the point $(-3, 5)$ translation $(0, -10)$ is ($(3, -5)$, $(-3, -5)$, $(3, 5)$, $(5, -3)$)
4	the angle whose measure is $95^\circ 60'$ supplements an angle of measure (75 , 84 , 90 , 100)
5	if $m(\angle X) = 3m(\angle Y)$ and $\angle X, \angle Y$ are supplementary angles , then $m(\angle X) = \dots\dots\dots$ (90 , 180 , 45 , 135)
6	ABCD is a rectangle , then $BC \equiv \dots\dots\dots$ (AC , BD , AD , DC)
7	if L_1, L_2, L_3 are straight lines in the same plane , $L_1 \perp L_3$, $L_2 \perp L_3$, then ($L_1 \parallel L_2$, $L_1 \perp L_2$, $L_1 \parallel L_3$, $L_2 \parallel L_3$)
8	if the two vertically opposite angles are supplementay , then the measure of each angle is (45 , 90 , 180 , 60)

9	the reflex angle is the angle whose measure is more than and less than
10	if the area of a square is 25cm^2 , then its perimeter = cm
11	if a line segment is extended from both sides to infinity, then it is called
12	if C is the mid point of $\overline{AB}$, then $\overline{AC} \equiv$
13	the value of $x =$ 

Answer the following

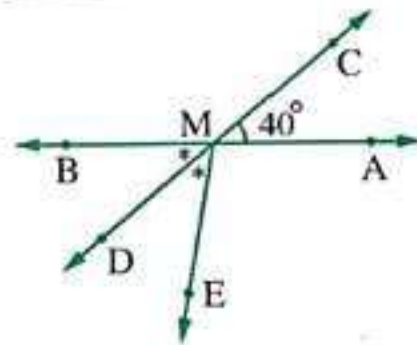
1	$\overline{BA} \parallel \overline{CE}$, $m(\angle A) = 48^\circ$ $D \in \overline{BC}$, $m(\angle B) = 62^\circ$ Find: $m(\angle ECD)$, $m(\angle ACE)$, and $m(\angle ACB)$ 
2	ABC is a triangle, E is the midpoint of $\overline{AC}$ $\overline{EF}$ intersects $\overline{AB}$ at F, $m(\angle AFD) = 122^\circ$ and $m(\angle B) = 58^\circ$ Is $\overline{EF} \parallel \overline{CB}$? Why? 

3

$$\overrightarrow{AB} \cap \overrightarrow{CD} = \{M\}, m(\angle AMC) = 40^\circ$$

and $\overrightarrow{MD}$ bisects $\angle BME$

Find : $m(\angle AME)$



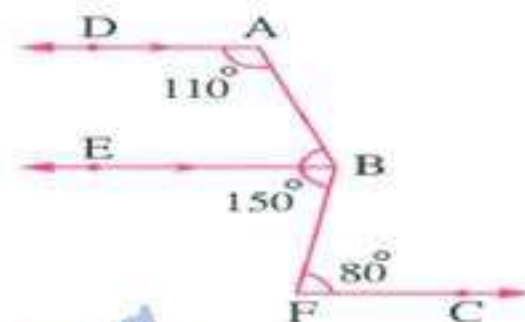
4

$$\overrightarrow{AD} \parallel \overrightarrow{BE}$$

$$, m(\angle F) = 80^\circ$$

$$, m(\angle A) = 110^\circ \text{ and } m(\angle ABF) = 150^\circ$$

Is $\overrightarrow{BE} \parallel \overrightarrow{FC}$? (Give reason)



5

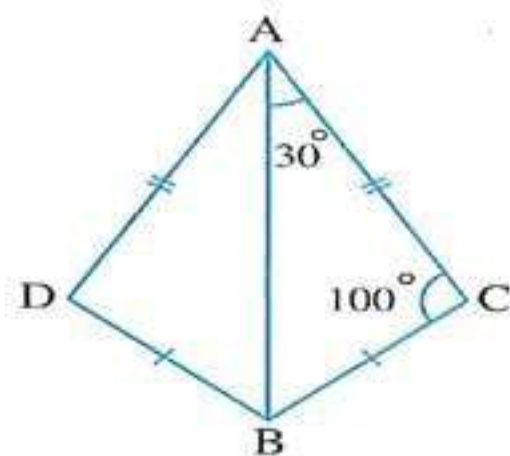
$$AC = AD, BC = BD$$

$$, m(\angle ACB) = 100^\circ$$

$$, m(\angle CAB) = 30^\circ$$

1 Prove that : $\triangle ABC \cong \triangle ABD$

2 Find : $m(\angle ABD)$



Exam (9)

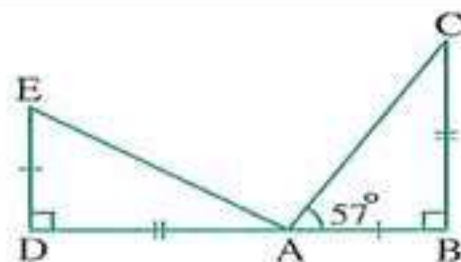
1	if $\overrightarrow{BD}$ bisects $\angle ABC$, then $m(\angle ABD) \dots\dots\dots m(\angle DBC)$ (= , < , = , >)
2	the obtuse angle supplements angle (an acute , an obtuse , a zero , a right)
3	the perimeter of a square is 24 cm, then its area is cm^2 (8 , 9 , 3 , 36)
4	if $\overline{BC} \equiv \overline{XY}$, then $BC \div XY = \dots\dots\dots$ (2 , zero , 1 , XY)
5	the perpendicular bisector of a line segment is called (symmetry axis , parallel , intersecting line , median)
6	if $\angle X$ supplements $\angle Y$, $m(\angle X) = 60$, then $m(\text{reflex } \angle Y) = \dots\dots\dots$ (120 , 180 , 240 , 300)
7	if the two vertically opposite angles are complementary, then the measure of each angle is (90 , 45 , 180 , 50)
8	the straight line which is perpendicular to one of two parallel straight lines is to the other straight lines in the plane (perpendicular , parallel , coincided , otherwise)
9	the obtuse angle is the angle whose measure is more than and less than
10	the two right angled triangles are congruent if , are congruent to their corresponding parts in the other triangle
11	the value of $x = \dots\dots\dots$ 
12	if the two lines L_1, L_2 are two parallel lines, then $L_1 \cap L_2 = \dots\dots\dots$

1

$$AB = DE$$

$$, BC = AD , m(\angle CAB) = 57^\circ$$

Find the measures of the unknown angles in the triangle ADE

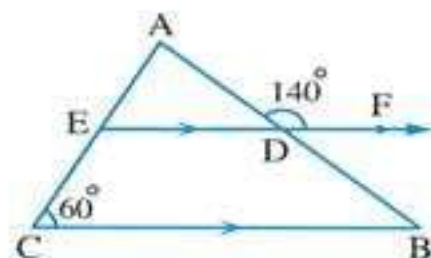


2

$$\overline{BC} \parallel \overline{EF} , m(\angle C) = 60^\circ$$

$$, m(\angle ADF) = 140^\circ$$

Find each of the following : $m(\angle B)$ and $m(\angle A)$

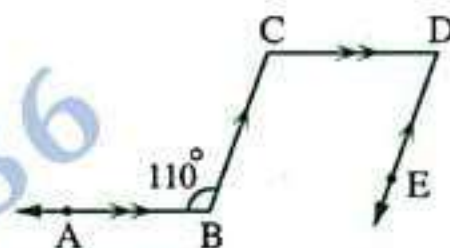


3

$$\overrightarrow{BA} \parallel \overrightarrow{CD} , \overrightarrow{CB} \parallel \overrightarrow{DE}$$

$$, m(\angle B) = 110^\circ$$

Find : $m(\angle D)$



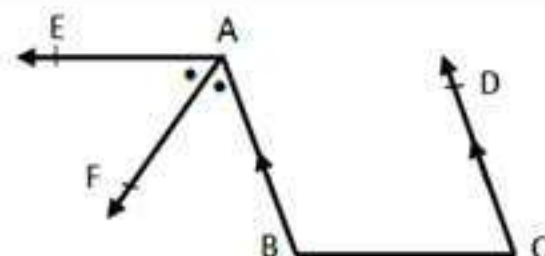
4

$$\overrightarrow{CD} \parallel \overrightarrow{BA} , \overrightarrow{CB} \parallel \overrightarrow{AE}$$

$\overrightarrow{AF}$ bisects $\angle BAE$, and

$$m(\angle FAE) = 58^\circ$$

Find: $m(\angle C)$

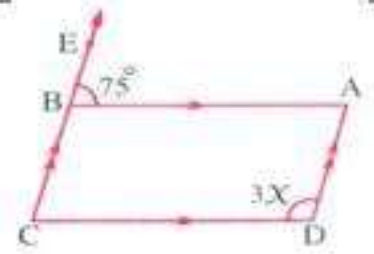


5	If $Y \in \overleftrightarrow{ZX}$, $m(\angle XYM) = 150^\circ$ and $m(\angle Z) = 30^\circ$ (1) Find : $m(\angle MYZ)$ (2) Is $\overleftrightarrow{YM} \parallel \overleftrightarrow{ZL}$? Why ? (Showing the steps) 	
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Exam (10)

1	if $\overleftrightarrow{AB} \cap \overleftrightarrow{CD} = \{M\}$, then $x = \dots\dots\dots$ (a) 30 (b) 45 (c) 60 (d) 90	
2	if $\angle X \equiv \angle Y$ and $\angle X, \angle Y$ are supplementary angles, then $m(\angle X) = \dots\dots\dots$ (45 , 90 , 135 , 180)	
3	in the opposite figure : $x = \dots\dots\dots$ (a) 70 (b) 90 (c) 110 (d) 290	
4	the angle whose measure is more than 180 and less than 360 is called (obtuse , straight , reflex , acute)	
5	$m(\angle C) = \dots\dots\dots$ (90 , 140 , 40 , 50)	
6	the number of rectangles of the opposite figure is (3 , 4 , 6 , 5)	
7	if $\angle A \equiv \angle B$, then $m(\angle A) - m(\angle B) = \dots\dots\dots$	

8	the obtuse angle supplements angles
9	if a straight line cuts two straight lines and two corresponding angles are equal in measure ,then the two straight lines are
10	the value of $x = \dots\dots\dots$
11	the two diagonals are equal in length in and
12	if $\angle X$ supplements $\angle Y$ and $m(\angle X) = \frac{1}{2} m(\angle Y)$, then $m(\angle Y) = \dots\dots$



Answer the following

1	The figure $ABCF \equiv$ the figure $AEDF$ $m(\angle AFC) = 90^\circ$, $AB = 5$ cm. Complete : (1) $m(\angle BAE) = \dots\dots\dots^\circ$ (2) $AE = \dots\dots\dots$ cm. (3) $m(\angle EDF) = m(\angle \dots\dots\dots)$	
2	$\overline{XY} \parallel \overline{DE}$, $m(\angle XAE) = 80^\circ$, $m(\angle B) = 80^\circ$, $AD = ED$, $AC = 10$ cm. Is $\overline{DE} \parallel \overline{BC}$? Why ? Find : The length of $\overline{AE}$, give reason 	

3

$$\overrightarrow{AC} \cap \overrightarrow{DE} = \{B\}, m(\angle ABD) = 50^\circ$$

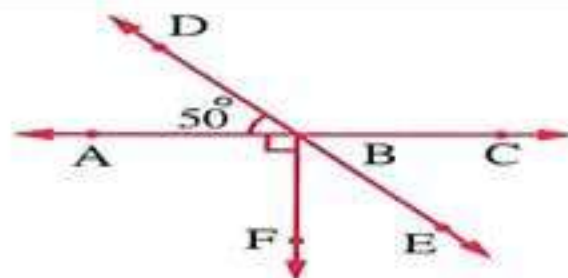
$$\text{and } m(\angle ABF) = 90^\circ$$

Find showing the steps :

$$(1) m(\angle DBC)$$

$$(2) m(\angle CBE)$$

$$(3) m(\angle FBE)$$

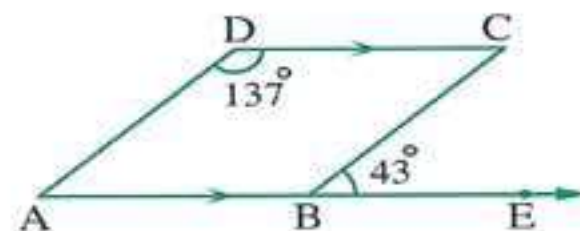


4

$$\overrightarrow{AB} \parallel \overrightarrow{DC}, m(\angle EBC) = 43^\circ$$

$$, m(\angle D) = 137^\circ$$

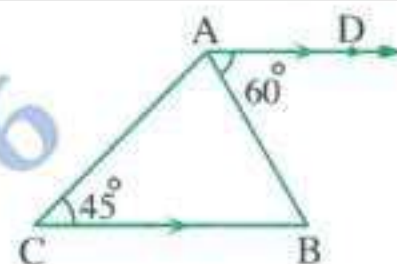
Is $\overrightarrow{BC} \parallel \overrightarrow{AD}$? Giving reason.



5

$$\overrightarrow{AD} \parallel \overrightarrow{CB}, m(\angle BAD) = 60^\circ, m(\angle C) = 45^\circ$$

Find : $m(\angle BAC), m(\angle E)$

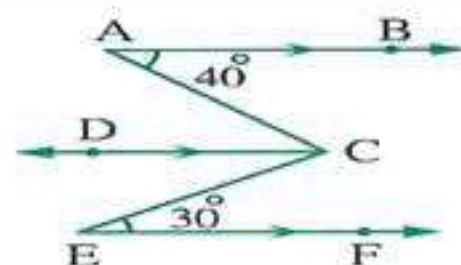


6

$$\overrightarrow{AB} \parallel \overrightarrow{CD} \parallel \overrightarrow{EF}$$

$$, m(\angle A) = 40^\circ, m(\angle E) = 30^\circ$$

Find : $m(\angle ACE)$



1 Choose the correct answer:

- 1) If $m(\angle A) = 60^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots$
 - a) 30°
 - b) 60°
 - c) 120°
 - d) 300°
- 2) If $\triangle ABC \equiv \triangle XYZ$, if $\angle m A + m \angle B = 130^\circ$ then $m \angle Z = \dots\dots\dots^\circ$.
 - a) 65
 - b) 90
 - c) 50
 - d) 60
- 3) If $\angle A, \angle B$ are supplementary angles if $m \angle A = 2m \angle B$, then $m \angle B = \dots\dots\dots^\circ$.
 - a) 180
 - b) 120
 - c) 30
 - d) 60
- 4) The sum measures of the accumulative angles at a point is $\dots\dots\dots^\circ$.
 - a) 180
 - b) 120
 - c) 90
 - d) 360
- 5) If $m \angle A = 120^\circ$, then the reflex of $\angle A$ is $\dots\dots\dots^\circ$.
 - a) 200
 - b) 60
 - c) 240
 - d) 90

2 Complete:

- 1) Every two vertically opposite angles are $\dots\dots\dots$ in measure.
- 2) If two adjacent angles are supplementary, then their outer sides are $\dots\dots\dots$.
- 3) If $\angle A \equiv \angle B$, then $m \angle A - m \angle B =$ is $\dots\dots\dots$.
- 4) The sum of the measure of the two complementary angles is $\dots\dots\dots^\circ$.
- 5) Every two corresponding angles are $\dots\dots\dots$.

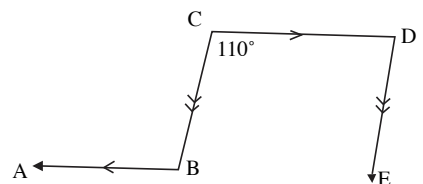
- 3 a) Using the geometric instruments, draw $\triangle ABC$ where, $AB = AC = 5$ cm
 $BC = 6$ cm, then bisect $\angle A$ by the bisector $\overline{AD}$ to meet $\overline{BC}$ at D.
 (don't remove arce).

- b) In the opposite figure if $\overline{CD} \parallel \overrightarrow{BA}$, $\overrightarrow{DE} \parallel \overline{CB}$

$$m \angle C = 110^\circ$$

Find:

1. $m \angle D$
2. $m \angle B$



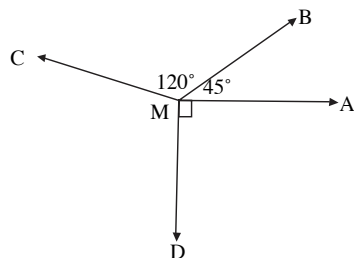
4 a) In the opposite figure.

$$m \angle AMB = 45^\circ$$

$$m \angle BMC = 120^\circ$$

$$m \angle AMD = 90^\circ$$

Find $m \angle CMD$

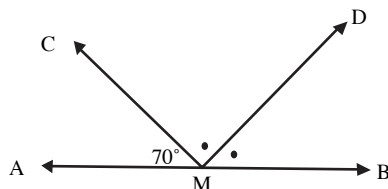


b) In the opposite figure

$$M \in \overleftrightarrow{AB}, m \angle AMC = 70^\circ$$

$\overrightarrow{MD}$ bisects $\angle CMB$

Find $m \angle BMD$ by proof

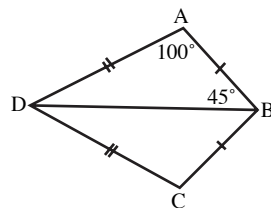


5 a) In the opposite figure

$$AB = CB, AD = CD$$

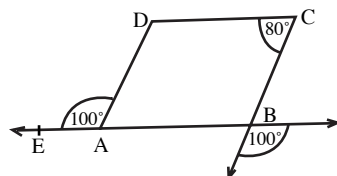
$$m \angle ABD = 45^\circ, m \angle A = 100^\circ$$

Find with proof $m \angle CDB$



b) In the opposite figure

mension the parallel lines.



1 Complete:

1. The angle of measure 25° supplements the angle of measure $^\circ$.
2. In any right-angled triangle the side which is opposite to the right angle is called $^\circ$.
3. If a straight line intersects two parallel straight lines, then every two alternate angles are
4. Two triangles are congruent if the lengths of sides of one triangle
5. If $\triangle ABC \equiv XYZ$, $m(\angle X) + m(\angle Y) = 150^\circ$, then $m(\angle C) = \dots\dots\dots^\circ$.

2 Choose the correct answer from the given ones:

a) The angle of measure 30° complements of the angle of measure

$\{90^\circ, 180^\circ, 60^\circ, 150^\circ\}$

b) In the opposite figure: $y = \dots\dots\dots$

$\{360^\circ, 60^\circ, 180^\circ, 80^\circ\}$

c) In the opposite figure:

If $\overleftrightarrow{AB} \cap \overleftrightarrow{DC} = \{M\}$, $x = \dots\dots\dots$

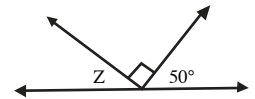
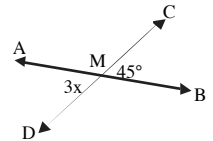
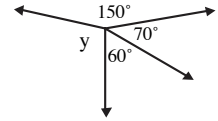
$\{45^\circ, 15^\circ, 135^\circ, 165^\circ\}$

d) In the opposite figure, $Z =$

$\{40^\circ, 50^\circ, 90^\circ, 60^\circ\}$

e) The two lines which are parallel to a third are

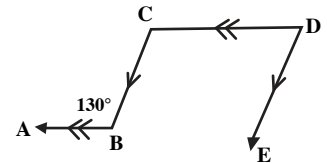
$\{\text{perpendicular} - \text{parallel} - \text{equal} - \text{intersect}\}$



3 a) In the opposite figure:

$\overline{CD} \parallel \overline{BA}$ and $\overline{DE} \parallel \overline{CB}$, $m(\angle B) = 130^\circ$

Find: $m(\angle D)$ (Giving reasons)



b) In the opposite figure:

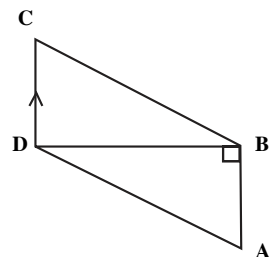
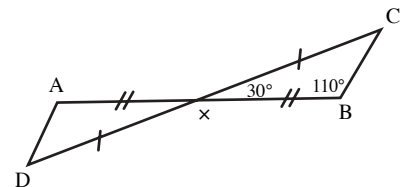
$\overline{AB} \cap \overline{CD} = \{X\}$, $AC = XB$

$DX = XC$, $m(\angle CXB) = 30^\circ$

$m(\angle CBX) = 110^\circ$

1) Find $m(\angle D)$ (Giving reasons)

2) Is $\overline{AD} \parallel \overline{BC}$? **Why?**



4 a) In the opposite figure:

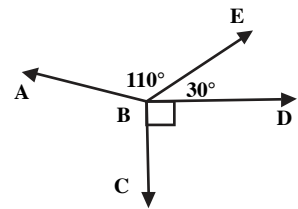
$m(\angle ABD) = 90^\circ$, $\overline{BA} \parallel \overline{CD}$

Find: $m(\angle BDC)$

b) In the opposite figure:

$$m(\angle DBE) = 30^\circ, m(\angle EBA) = 110^\circ$$

$\angle CBD$ is a right angle, find $m(\angle ABC)$.

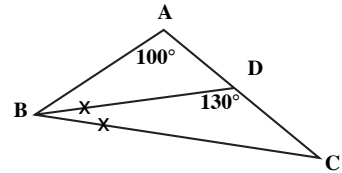


5 a) In the opposite figure:

$\overrightarrow{BD}$ bisects $\angle B$

$$m(\angle A) = 100^\circ, m(\angle BDC) = 130^\circ$$

Find: $m(\angle C)$ (Giving reasons)



b) Draw $\triangle ABC$ in which $AB = AC = 5$ cm and $BC = 4$ cm. Use the compasses to draw the perpendicular from A to $\overline{CB}$.

Cairo

3

El Sharabia Directorate - Talae El Mostakbal. Exp. School

1 Choose the correct answer:

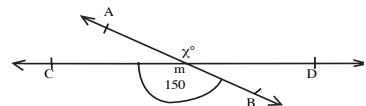
1) The supplementary of the acute angle is angle.

- a) zero b) acute c) right d) obtuse

2) In the opposite figure:

If $\overleftrightarrow{CD} \cap \overleftrightarrow{AB} = \{m\}$, then $x = \dots\dots^\circ$

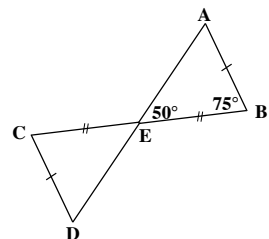
- a) 70 b) 150
c) 65 d) 330



3) In the opposite figure:

then $m(\angle D) = \dots\dots^\circ$

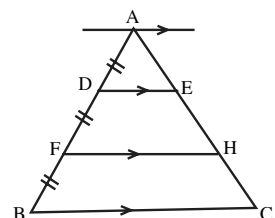
- a) 39 b) 65
c) 25 d) 55



4) In the opposite figure:

If $AC = 12$ cm, then $AH = \dots\dots$ cm

- a) 3 b) 4
c) 8 d) 9



5) The sum of the measures of accumulative angles at a point is°

a) 90

b) 360

c) 180

d) 270

2 Complete:

1) When a transversal cuts two parallel lines, the alternate angles are

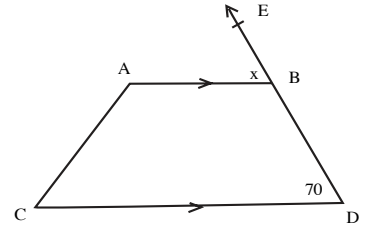
2) If $m(\angle X) = 100^\circ$, then $m(\text{reflex } \angle X) = \dots\dots\dots^\circ$.

3) The two triangles are congruent if two sides and in one of them are congruent to their corresponding elements in the other.

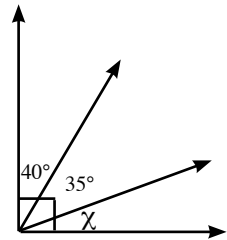
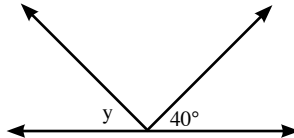
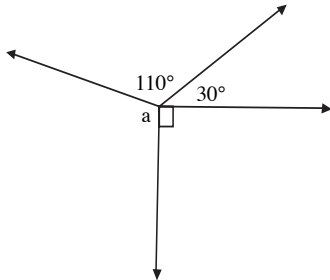
4) If triangle ABC is congruent to the triangle XYZ and $m(\angle X) = 60^\circ$ $m(\angle B) = 50^\circ$, then $m(\angle Z) = \dots\dots\dots^\circ$.

5) In the opposite figure:

If $\overline{AB} \parallel \overline{CD}$, then the value of $x = \dots\dots\dots$



3 a) Draw $\angle ABC$ whose measure is 130 use ruler and compasses to bisect $\angle ABC$.

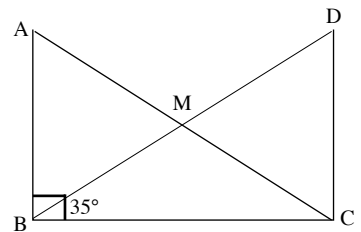


4 a) In the opposite figure:

$AB = CD$, $m(\angle DBC) = 35^\circ$

$\overline{AB} \perp \overline{BC}$ and $\overline{DC} \perp \overline{BC}$

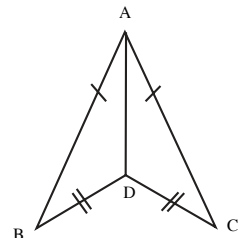
Find: $m(\angle BMC)$



b) In the opposite figure:

$DC = DB$ and $AB = AC$

Verify that: $\overline{AD}$ bisects $(\angle ABC)$

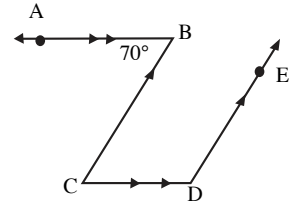


5 a) In the opposite figure:

$$\overrightarrow{AB} \parallel \overrightarrow{CD}, \overrightarrow{DE} \parallel \overrightarrow{CB}$$

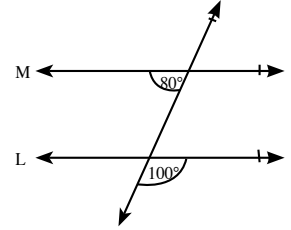
$$\text{and } m(\angle B) = 70^\circ$$

Find: $m(\angle D)$



b) In the opposite figure:

Show that: $\overleftrightarrow{L} \parallel \overleftrightarrow{M}$



Cairo

4

El Khalifa & Mokattam Educational Zone - Futures Languages Schools

1 Choose the correct answer:

1. If $m(\angle A) = 70^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots$

- a) 110° b) 70° c) 210° d) 290°

2. If $m(\angle x) + m(\angle y) = 90^\circ$, then $\angle x$ and $\angle y$ and $\dots\dots\dots$

- a) supplementary b) complementary
c) equal d) acute

3. If $\triangle XYZ \equiv \triangle LMN$, then $\dots\dots\dots$

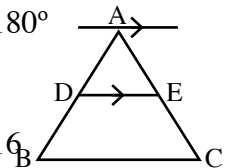
- a) $XY = MN$ b) $XZ = LN$ c) $XY = LN$ d) $XZ = LM$

4. The sum of the accumulative angles at a point equals $\dots\dots\dots$

- a) 90° b) 360° c) 270° d) 180°

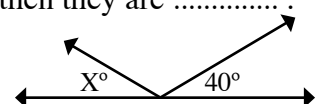
5. In the opposite figure: If $AE = 8 \text{ cm}$, then $AC = \dots\dots\dots \text{ cm}$

- a) 41 b) 8 c) 12 d) 16

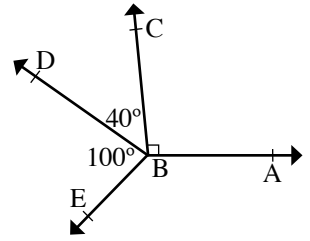


2 Complete:

- The two vertically opposite angles are $\dots\dots\dots$ in measure.
- Two angles are congruent if $\dots\dots\dots$.
- If two straight lines are parallel to a third straight line, then they are $\dots\dots\dots$.
- Any two triangles are congruent if $\dots\dots\dots$.
- In the opposite figure: $X = \dots\dots\dots^\circ$.



- 3 (a) Draw $\angle XYZ$ its measure 80° (using the compass and the ruler) bisect $\angle XYZ$ (don't remove your arcs)



(b) In the opposite figure:

$$m(\angle ABC) = 90^\circ, m(\angle CBD) = 40^\circ$$

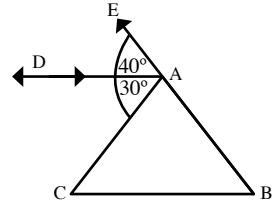
$$m(\angle DBE) = 100^\circ. \text{ Find } m(\angle ABE)$$

- 4 a) In the opposite figure:

$$(\overrightarrow{AD} \parallel \overrightarrow{BD}) m(\angle EAD) = 40^\circ$$

$$m(\angle DAC) = 30^\circ$$

Find: $m(\angle C)$, $m(\angle B)$, = and $m(\angle BAC)$

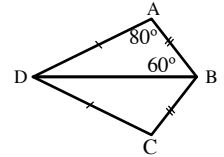


b) In the opposite figure:

$$AB = BC, \quad DA = DC$$

$$m(\angle ABD) = 60^\circ, m(\angle BAD) = 80^\circ$$

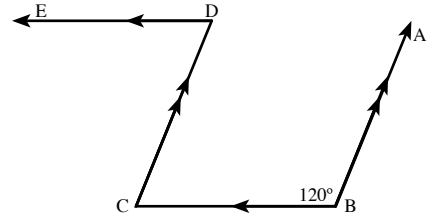
Find: $m(\angle ADC)$



- 5 a) In the opposite figure:

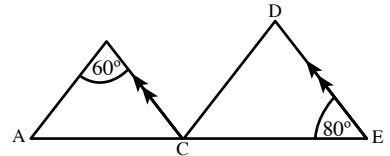
$$m(\angle B) = 120^\circ, \overrightarrow{BA} \parallel \overrightarrow{CD}$$

$$\overrightarrow{DE} \parallel \overrightarrow{BC}, \text{ find } m(\angle D)$$



b) In the given figure:

Show that $\overrightarrow{AB} \parallel \overrightarrow{CD}$



Cairo

5

Shoubra Education Zone - St. Catherine L. School

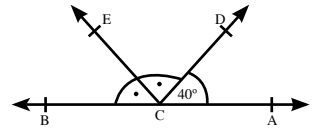
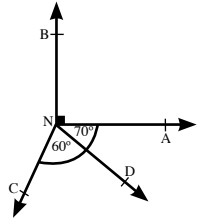
- 1 Choose the correct answer:

- The sum of measures of the accumulative angles at a point is
 a) 180° b) 360° c) 90° d) 270°
- If $\triangle ABC \equiv \triangle XYZ$, then
 a) $AB = YZ$ b) $AC = ZY$ c) $AC = XY$ d) $AC = XZ$
- If $m(\angle A) = 170^\circ$, then $m(\text{reflex } \angle A)$
 a) 90° b) 190° c) 100° d) 80°

4. An angle of measure 60° supplements an angle of measure.....
 a) 60° b) 90° c) 120° d) 30°
5. The angle of measure 72° complements to angle of measure
 a) 108° b) 90° c) 18° d) 180°

2 Complete:

- a) In the opposite figure. $m(\angle BNC)$
- b) If a straight line intersects two parallel straight line, then each two alternate angles are
- c) If a straight line intersects another straight line, then each two vertically opposite angles are
- d) Two triangles are congruent if
- e) In the opposite figure. $C \in \overleftrightarrow{AB}$,
 then $m(\angle BCE) = \dots\dots\dots^\circ$.

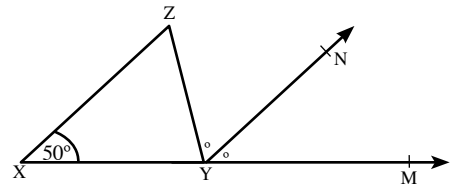


- 3 (a) Using the geometric tools, draw an angle of measure 80° , then bisect it (Don't remove the arcs)

(b) In the opposite figure:

$\overrightarrow{YN}$ bisects
 $\angle MYZ$ where $M \in \overleftrightarrow{XY}$
 $m(\angle MYZ) = 100^\circ$

Show that: $\overleftrightarrow{XZ} \parallel \overleftrightarrow{YN}$



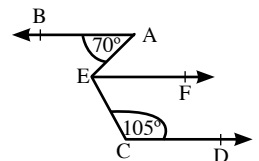
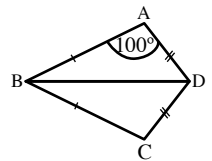
4 a) In the opposite figure. $AB = BC$:

$AD = DC$, $m(\angle A) = 100^\circ$

- Given reasons why $\triangle ABD \equiv \triangle CBD$
- Find $m(\angle C)$

b) $\overleftrightarrow{AB} \parallel \overleftrightarrow{EF} \parallel \overleftrightarrow{CD}$, $m(\angle C) = 105^\circ$

$m(\angle A) = 70^\circ$ find $m(\angle AEC)$



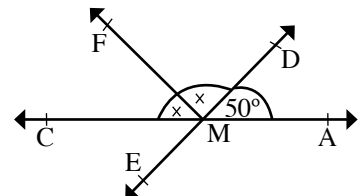
5 a) In the figure:

$\overleftrightarrow{AC} \cap \overleftrightarrow{DE} = \{M\}$

$\overleftrightarrow{MF}$ bisects $\angle DMC$,

$m(\angle DMA) = 50^\circ$

Find $m(\angle FMC)$, $m(\angle CMC)$



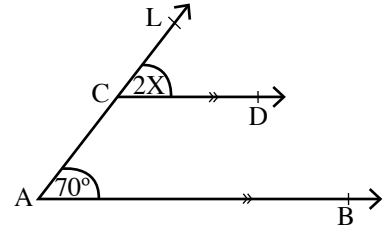
b) In the opposite figure.

$$\overrightarrow{CD} \parallel \overrightarrow{AB}$$

$$m(\angle A) = 70^\circ$$

$$m(\angle LCD) = 2X$$

Find the value of X



Giza

6

Omrania Directorate - El-Neel Language School

1 Choose the correct answer:

1. If $m(\angle X) = 100^\circ$, then $m(\text{reflex } \angle X) = \dots\dots$
 - a) 80°
 - b) 100°
 - c) 360°
 - d) 260°
2. If $\triangle ABC \equiv \triangle XYZ$, then $m(\angle A) = \dots\dots$
 - a) $m(\angle C)$
 - b) $m(\angle X)$
 - c) $m(\angle Y)$
 - d) $m(\angle Z)$
3. The angle of measure 70° complements the angle of measure $\dots\dots\dots$
 - a) 20°
 - b) 110°
 - c) 90°
 - d) zero

4. In the opposite figure:

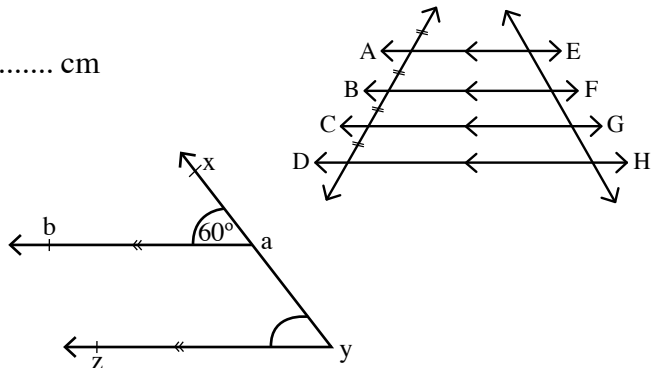
If $EG = 9$ cm, then $GH = \dots\dots\dots$ cm

- a) 3
- b) 6
- c) 9
- d) 18

5. In the opposite figure:

$m(\angle Y) = \dots\dots\dots$

- a) 120°
- b) 30°
- c) 60°
- d) 180°



2 Complete each of following:

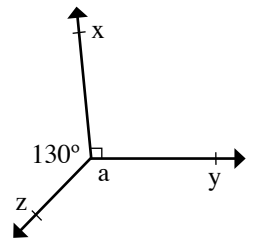
- a) If two straight line intersect, then each two vertically opposite angles are $\dots\dots\dots$
- b) The supplement of angle whose measure $50^\circ = \dots\dots\dots$
- c) If $\overline{AB} = \overline{XY}$, $AB = 5$ cm then $XY = \dots\dots\dots$ cm.
- d) If $\overrightarrow{YX}$ bisects $(\angle AXM)$, $m(\angle AXY) = 40^\circ$ then $m(\angle YXM) = \dots\dots\dots$
- e) The sum of measure of the accumulative angles at point = $\dots\dots\dots^\circ$.

3 (a) Draw an angle whose vertex is A and its measure 120° use ruler and compasses to divide the angle into two equal angles (Don't remove the arcs)

(b) In the opposite figure:

$$m(\angle XAY) = 90^\circ, m(\angle XAZ) = 130^\circ$$

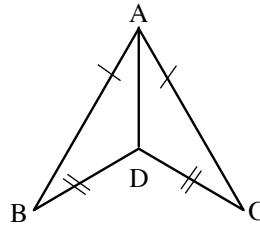
Find: $m(\angle ZAY)$



4 a) In the opposite figure:

$$AC = AB, DC = DB$$

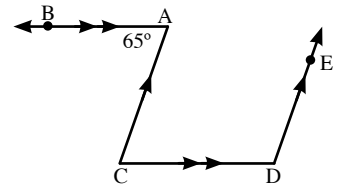
Prove that $\triangle ACD = \triangle ABD$



b) In the opposite figure:

$$\overrightarrow{AB} \parallel \overrightarrow{CD}, \overrightarrow{AC} \parallel \overrightarrow{DE} \text{ and } m(\angle A) = 65^\circ$$

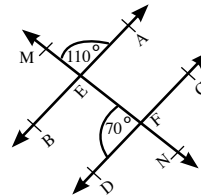
Find: $m(\angle C)$ and $m(\angle D)$



5 (a) The sum of areas of the squares on the sides of a right-angled triangle is..... (complete)

b) In the opposite figure:

Show that: $\overrightarrow{AB} \parallel \overrightarrow{CD}$



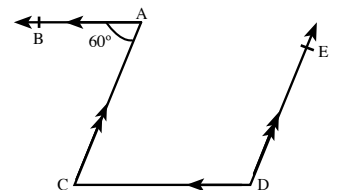
Giza

7

6th October Directorate - El Sheikh Zayed E. L. S.

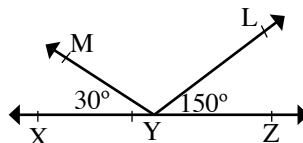
1 Complete each of the following:

1. The angle that its measure 82° complements the angle that its measure is
2. The two vertically opposite angles are in measure.
3. If $m(\angle D) = 120^\circ$, then $m(\text{reflex } \angle D) = \dots\dots\dots$
4. In the figure opposite:
 $m(\angle D) = \dots\dots\dots$



5. In the opposite figure:

$$m(\angle MYL) = \dots\dots\dots^\circ$$



2 Choose the correct answer:

a) The supplements of the angle whose measure 117° is

a) 36°

b) 63°

c) 90°

d) 243°

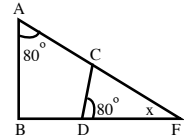
b) The sum of the measures of accumulative angles at a point is

- a) 180° b) 90° c) 360° d) 270°

c) In the opposite figure:

If $\overline{AB} \parallel \overline{CD}$, then the value of (x) equal

- a) 80° b) 60° c) 40° d) 20°



d) If: L_1, L_2 and L_3 are three coplanar straight lines and $L_1 \parallel L_2, L_1 \perp L_3$, then

- a) $L_1 \parallel L_3$ b) $L_2 \perp L_3$ c) $L_1 \perp L_2$ d) $L_1 \parallel L_2 \parallel L_3$

e) Measure of a straight angle =

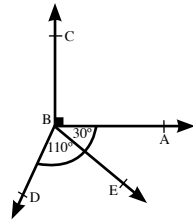
- a) 90° b) 180° c) 270° d) 360°

3 (a) Draw an angle with measure 130, then bisect it using geometrical tools. (Don't remove the arcs)

(b) In the opposite figure:

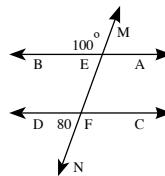
$$\overrightarrow{BA} \perp \overrightarrow{BC}, m(\angle ABE) = 30^\circ$$

and $m(\angle EBD) = 110^\circ$, find $m(\angle CBD)$



4 (a) In the opposite figure:

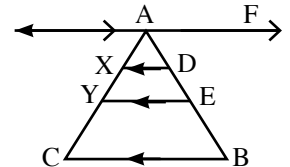
Show that: $\overrightarrow{DC} \parallel \overrightarrow{AB}$



(b) In the opposite figure:

$$\overrightarrow{AF} \parallel \overrightarrow{DX} \parallel \overrightarrow{EY} \parallel \overrightarrow{BC}, AX = XY = YC$$

If $AB = 15$ cm, find: the length of $\overline{BE}$

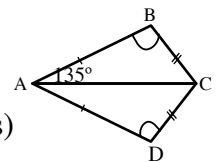


5 (a) State two cases of congruency of two triangles.

(b) In the opposite figure:

$$m(\angle B) = m(\angle D) = 90, m(\angle BAC) = 35^\circ$$

and $\overline{BC} = \overline{DC}$, find: $m(\angle DAC), m(\angle BCD)$ (Give reasons)



Giza

8

El Dokki Directorate - Gamal Abd El Nasser E.L.S

1 Choose the correct answer:

1) The sum of the measure of accumulative angles at a point is

- a) 306° b) 180° c) 90° d) 360°

2) The $\triangle ABC \equiv \triangle XYZ, m(\angle X) = 70^\circ$, then, $m(\angle A) = \dots\dots\dots$

- a) 110° b) 70° c) 20° d) 180°

3) If $m(\angle A) = 120^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots$

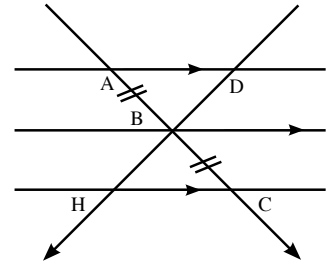
- a) 60° b) 70° c) 240° d) 120°

4) In the given figure

If $BH = 6 \text{ cm}$,

Then $BD = \dots\dots\dots \text{ cm}$

- a) 3 b) 6
c) 9 d) 15



5) The supplement of an acute angle is $\dots\dots\dots$ angle.

- a) right b) obtuse c) acute d) straight

2 Complete each of the following:

1) In the opposite figure: $\overrightarrow{AB} \parallel \overrightarrow{CD}$, $\overrightarrow{AC} \parallel \overrightarrow{DE}$.

$m(\angle D) = \dots\dots\dots$

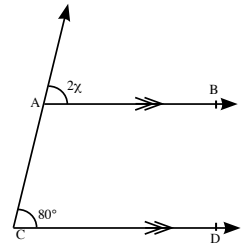
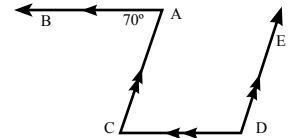
2) If a straight line intersects two parallel straight lines, then any two alternate angles are $\dots\dots\dots$.

3) Two triangles are congruent if two sides and $\dots\dots\dots$ in one of them is congruent with the corresponding parts of the other.

4) If two straight lines intersect, then the measure of two vertically opposite angles are $\dots\dots\dots$ in measure.

5) In the opposite figure: $m(\angle C) = 80^\circ$

$\overrightarrow{AB} \parallel \overrightarrow{CD}$, then $X = \dots\dots\dots$



3 a) Using your geometrical tools to draw $\angle ABC$ of measure 70° , then bisect it.

(Don't remove the arce)

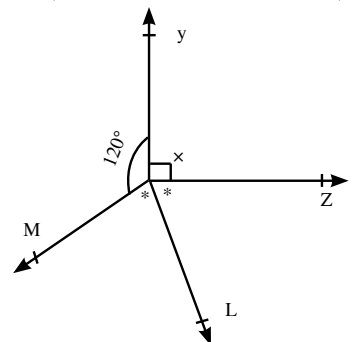
b) In the opposite figure:

$\overrightarrow{XY} \perp \overrightarrow{XZ}$

and $\overrightarrow{XL}$ is a bisector of $\angle ZXM$

$m(\angle YXM) = 120^\circ$

Find: $m(\angle LXM)$

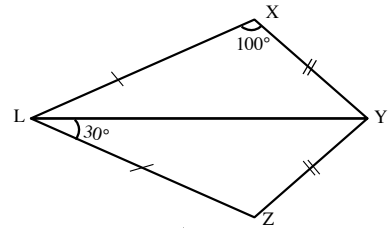


4 a) In the opposite figure:

$$XY = YZ, XL = ZL$$

$$m(\angle LXY) = 100^\circ, m(\angle ZLY) = 30^\circ$$

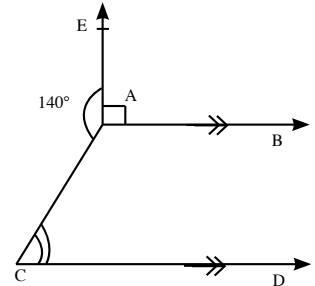
$$\text{Find: } m(\angle XYZ)$$



b) In the opposite figure:

$$\overrightarrow{AB} \parallel \overrightarrow{CD}, m(\angle EAC) = 140^\circ$$

$$\text{Then find } m(\angle C)$$



5 a) In the opposite figure:

$$\overrightarrow{AD} \parallel \overrightarrow{BC}$$

$$m(\angle EAD) = 45^\circ$$

$$\text{and } m(\angle DAC) = 45^\circ$$

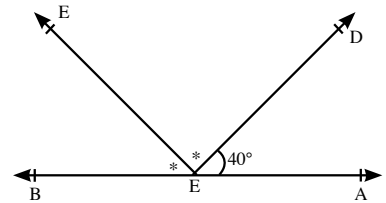
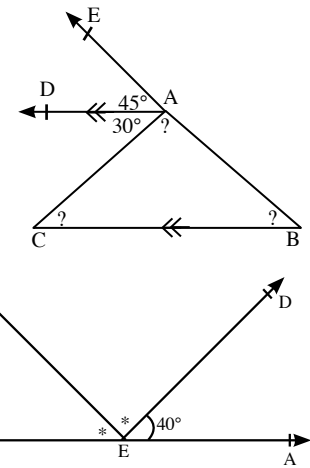
$$\text{find: } m(\angle C), m(\angle B) \text{ and } m(\angle BAC)$$

b) In the opposite figure:

$$\overleftrightarrow{AB} \cap \overleftrightarrow{CD} = \{C\}$$

$$\overrightarrow{CE} \text{ bisects } \angle BCD \text{ if } m(\angle ACD) = 40^\circ$$

$$\text{Find: } m(\angle BCE)$$



Giza

9

Omrana Directorate - El Sadat Lang. School

1 Choose the correct answer:

1) The angle of measure 60° complement an angle of measure

- a) 50° b) 30° c) 120° d) 300°

2) if: $\triangle ABC \equiv \triangle XYZ$, then $\overline{AB} \equiv$

- a) $\overline{BC}$ b) $\overline{YZ}$ c) $\overline{XZ}$ d) $\overline{XY}$

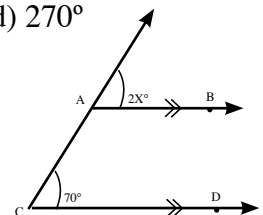
3) The sum of measures of the accumulative angles at a point

- a) 360° b) 180° c) 90° d) 270°

4) In the opposite figure:

$$\overrightarrow{AB} \parallel \overrightarrow{CD}, \text{ the value of } X = \dots\dots$$

- a) 40° b) 140°
c) 70° d) 35°



5) If: $m(\angle A) = 100$, then $m(\text{reflex } \angle A) = \dots\dots\dots$

a) 80°

b) 100°

c) 260°

d) 170°

2 Complete each of the following:

1) If a straight line intersects two parallel lines, then each two alternate angles are

2) The two vertically opposite angles are in measure.

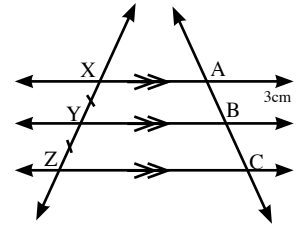
3) The two triangles are congruent if

4) If two adjacent angles are supplementary. Then their outer sides are

5) In the opposite figure:

$\overleftrightarrow{AX} \parallel \overleftrightarrow{BY} \parallel \overleftrightarrow{CZ}$, $AB = 3 \text{ cm}$.

and $XY = YZ$, then $AC = \dots\dots\dots \text{ cm}$



3 a) Using the geometric instrument draw an angle of measure 120° , then bisect it.

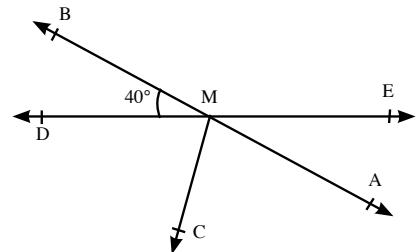
(Don't remove arcs)

b) In the opposite figure:

$\overleftrightarrow{AB} \cap \overleftrightarrow{DE} = \{M\}$, $\overleftrightarrow{MC}$ bisects $\angle DMA$

$m(\angle BMD) = 40^\circ$

Find: $m(\angle EMA)$, $m(\angle DMC)$

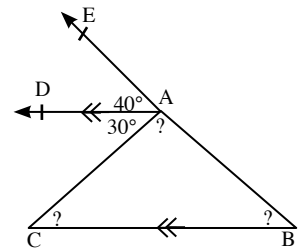


4 a) In the opposite figure:

$\overleftrightarrow{AD} \parallel \overleftrightarrow{BC}$, $m(\angle EAD) = 40^\circ$

$m(\angle DAC) = 30^\circ$

Find: $m(\angle C)$, $m(\angle B)$ and $m(\angle BAC)$

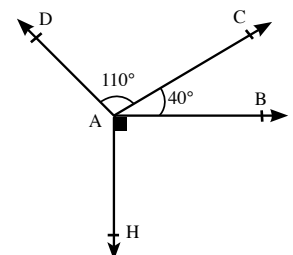


b) In the opposite figure:

$m(\angle BAH) = 90^\circ$, $m(\angle BAC) = 40^\circ$

$m(\angle CAD) = 110^\circ$

Find: $m(\angle DAH)$

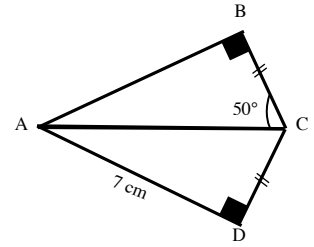


5 a) In the opposite figure:

$$\overline{BC} \equiv \overline{DC}$$

$$m(\angle B) = m(\angle D) = 90^\circ$$

$$AD = 7 \text{ cm, and } m(\angle BCA) = 50$$



Complete:

$$(1) \triangle ABC \equiv \triangle \dots\dots$$

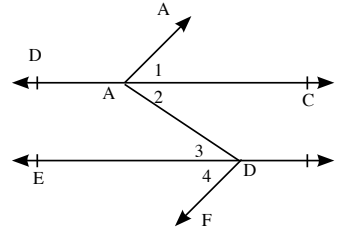
$$(2) AB = \dots\dots \text{ cm}$$

$$(3) m(\angle BAD) = \dots\dots^\circ$$

b) In the opposite figure:

$$m(\angle 1) = m(\angle 4), \overleftrightarrow{BC} \parallel \overleftrightarrow{ED}, \text{ show that}$$

$$\overleftrightarrow{BA} \parallel \overleftrightarrow{DF}$$



Alexandria 10

Wasat Educational Directorate - Sunshine Language School

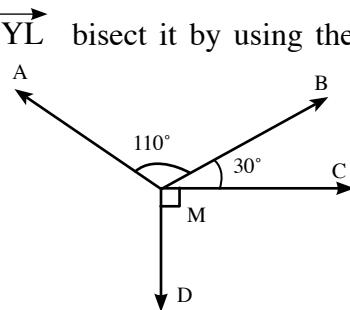
1 Complete:

- 1) If two straight lines are parallel to a third straight line, then they are
- 2) If $\angle A$ complements $\angle B$ and $m(\angle A) = 2m(\angle B)$, then $m(\angle A) = \dots\dots^\circ$
- 3) The two vertically opposite angles are
- 4) If $m(\angle ABC) = 85^\circ$, then $m(\text{reflex } \angle ABC) = \dots\dots$
- 5) Two angles are congruent if they are

2 Choose the correct answer:

- 1) If $\triangle ABC \equiv \triangle XYZ$, then $\overline{BC} \equiv \dots\dots$
 - a) $\overline{XY}$
 - b) $\overline{YZ}$
 - c) $\overline{XZ}$
 - d) $\overline{AB}$
- 2) The angle of measure 50° complements the angle of measure
- 3) The acute angle supplements angle.
 - a) acute
 - b) right
 - c) obtuse
 - d) straight
- 4) The value of $X = \dots\dots^\circ$
 - a) 40°
 - b) 60°
 - c) 80°
 - d) 100°
- 5) The sum of the accumulative angles at a point is
 - a) 306°
 - b) 180°
 - c) 90°
 - d) 360°

- 3 a) Draw an angle XYZ of measure 110° , then draw $\overrightarrow{YL}$ bisect it by using the compasses.



b) In the opposite figure:

find $m(\angle AMD)$

- 4 a) If a straight line intersects two parallel straight lines, then every two interior angle on one side of transversal are

b) In the opposite figure:

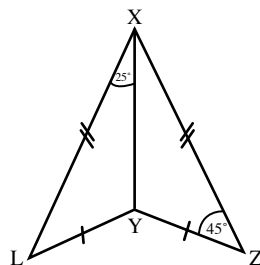
$XZ = XL$, $YZ = YL$

$m(\angle Z) = 45^\circ$

and $m(\angle YXL) = 25^\circ$

Prove that $\triangle XYZ \cong \triangle XYL$

Find $m(\text{reflex } \angle ZYL)$

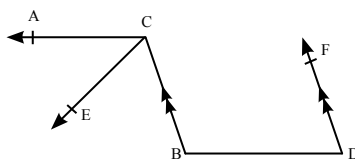


- 5 a) In the opposite figure:

$\overline{AC} \parallel \overline{DB}$, $\overline{CB} \parallel \overline{FD}$ and $\overline{CE}$ bisects $\angle ACB$

$m(\angle ACE) = 55^\circ$

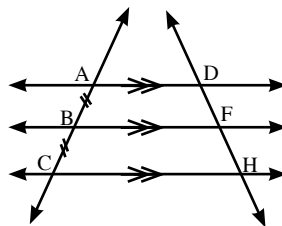
Find $m(\angle CBD)$, $m(\angle D)$



b) In the opposite figure:

If $DH = 12$ cm, then

$DE = \dots\dots\dots$ cm



Alexandria

11

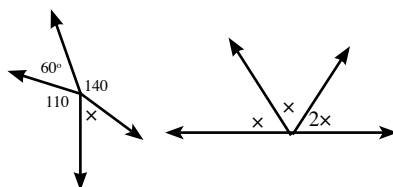
Mid. Educational Zone - El Orwa Exp. School For Boys

- 1 Complete the following:

a) If a straight line intersects two parallel straight lines, then every two alternate angles are

b) In the opposite figure, $x = \dots\dots\dots^\circ$

c) In the opposite figure, $x = \dots\dots\dots^\circ$



d) The straight line which is perpendicular to one of two parallel straight lines is the other.

e) Two triangles are congruent if

2 Choose the correct answer:

a) Two adjacent angles formed by a straight line and a ray are.....

[equal , supplementary , complementary , congruent]

b) The sum of measure of accumulative angles at one point =

[90° , 180° , 270° , two straight angles]

c) If $\Delta ABC \equiv \Delta XYZ$, then $AC = \dots\dots\dots$

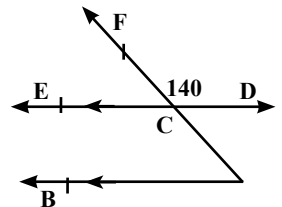
[XY , YZ , XZ , BC]

d) If $\angle A$ complement $\angle B$, $m(\angle A) = m(\angle B)$, then $m(\angle A)$

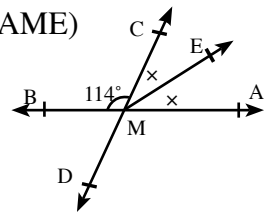
[90° , 180° , 45° , 60°]

e) In the opposite figure $\overleftrightarrow{AB} \parallel \overleftrightarrow{AB}$, $m(\angle FCD)$

=140, then $m(\angle A) = \dots\dots\dots$ [80° , 40° , 20° , 100°]



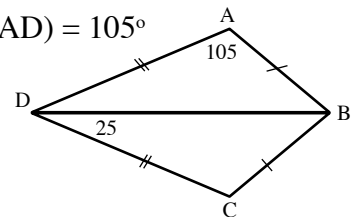
3 a) In the figure opposite, $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are bisecting at M, $\overleftrightarrow{ME}$ bisects $\angle AMC$, $M(\angle BMC) = 114^\circ$. Find $m(\angle AMC)$, $(\angle AMD)$, and $(\angle AME)$



b) Use the ruler and the compasses to draw the equilateral ΔABC of side 6 cm, draw $\overleftrightarrow{AD} \perp \overleftrightarrow{BC}$ where $\overleftrightarrow{AD} \perp \overleftrightarrow{BC} = \{D\}$. What the length of $\overleftrightarrow{AD}$. (Don't remove the arcs)

4 a) In the opposite figure $AB = BC$, $AD = CD$, $m(\angle BAD) = 105^\circ$

$m(\angle BDC) = 25^\circ$. Find $m(\angle ABD)$.

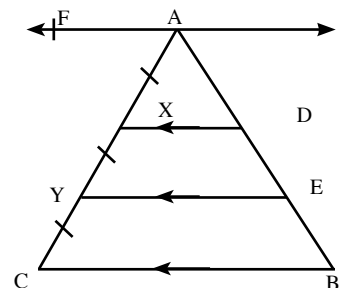


b) In the opposite figure $\overleftrightarrow{AF} \parallel \overleftrightarrow{DX} \parallel \overleftrightarrow{EY} \parallel \overleftrightarrow{BC}$

$AX = XY = YC$

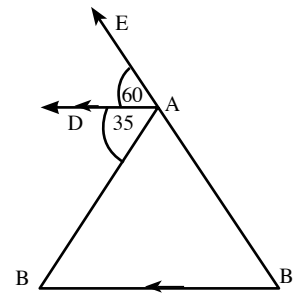
If $AB = 15$ cm

Find the length of $\overleftrightarrow{BE}$, $\overleftrightarrow{BD}$.

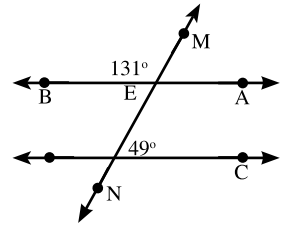


- 5 a) In the opposite figure $\overrightarrow{AD} \parallel \overrightarrow{BC}$, $m(\angle DAC) = 35^\circ$

$m(\angle EAD) = 60^\circ$. Find measure of the interior angles of $\triangle ABC$



- b) In the opposite figure show that $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$



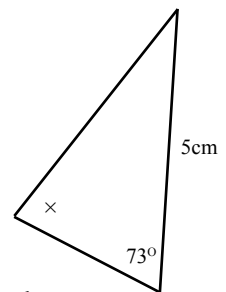
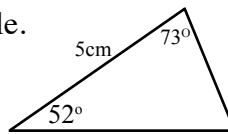
Qalubia

12

Kafer Shokr Educational Direcatorate

1 Complete:

- a) If $m(\angle X) = 120^\circ$ then $m(\text{reflex } \angle X) = \dots\dots\dots^\circ$.
- b) the straight angle supplements angle.
- c) In this figure:
these triangles are congruent.
then $x = \dots\dots\dots^\circ$.
- d) Two triangles are congruent if two sides and angle of triangle are congruent to the corresponding parts of the other triangle.
- e) If a straight line intersects two parallel straight lines, then each two corresponding angles are



2 Choose the correct answer:

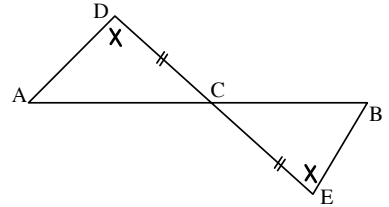
- a) The complement of angle whose measure 50° is
{50 or 130 or 40 or 310}
- b) If the two straight lines are parallel to a third straight, then they are
{perpendicular or parallel or congruent or on the same straight line}
- c) The axis of symmetry of a line segment is
{perpendicular it or bisecting it or parallel it or perpendicular and bisecting it}

- d) The two bisectors of two adjacent supplementary angles
 {are parallel or are perpendicular or are congruent or included an acute angle between them}
- e) If two straight lines intersected, the every two vertically opposite angles are
 {complementary or supplementary or equal in measure or alternate}

3 a) Using the geometric tools to draw $\angle ABC$ an straight angle

The $\overrightarrow{BX}$ bisects it. Find the measure of $(\angle XBA)$

(Don't remove arcs)



b) In the opposite figure $\overline{AB} \cap \overline{DE} = \{ C \}$

$EC = DC$, $m(\angle E) = m(\angle D)$ Prove that:

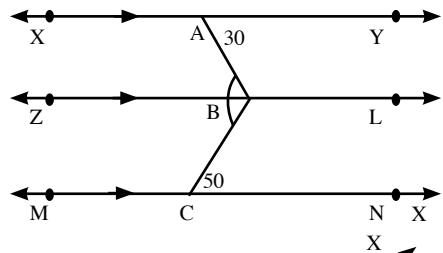
1. $\triangle AEC = \triangle DBC$

2. Write one state of the cases of congruence.

4 a) In the opposite figure $\overleftrightarrow{XY} \parallel \overleftrightarrow{ZL} \parallel \overleftrightarrow{MN}$

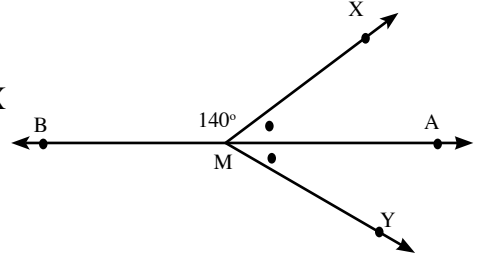
$m(\angle YAB) = 30^\circ$, $m(\angle NCB) = 50^\circ$

Find $m(\angle ABC)$



b) In the opposite figure $\overleftrightarrow{XY}$, $\overleftrightarrow{MA}$ bisect $\angle YMX$

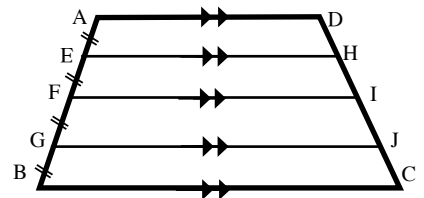
$m(\angle XMB) = 140^\circ$ Find $m(\angle XMY)$



5 a) In the opposite figure:

If $DC = 16$ cm,

then find the length of DI .

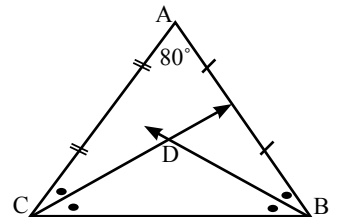


b) In the opposite figure

$\angle ABC$ which $m(\angle A) = 80^\circ$

$\overrightarrow{BD}$ bisects $\angle B$, $\overrightarrow{CD}$ bisects $\angle C$

Find $m(\angle BDC)$



1 Complete:

- a) The sum of the accumulative angles at a point equals
- b) If $m(\angle A) = 110^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots$
- c) The angle of measure 40° complements angle of measure
- d) The two vertically opposite angles are in measure.
- e) The supplement of an acute angles is angle.

2 Choose the correct answer:

- a) The supplementary of the angle that its measure equals 70° is

1. 110° 2. 120° 3. 90° 4. 20°

- b) The straight angle its measure is

1. 90° 2. 180° 3. 45° 4. 360°

- c) In this figure:

ABC is a triangle, $D \in \overline{AC}$ and

$\overrightarrow{BD}$ is a bisector of $\angle B$,

What is the measure of $\angle C$?

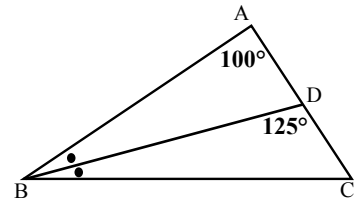
1. 25° 2. 30° 3. 45° 4. 55°

- d) The type of the triangle of its measure 90° is

1. right 2. acute 3. obtuse 4. straight

- e) $3X^\circ$ and 75° are supplementary angles, then $X = \dots\dots\dots$

1. 25° 2. 35° 3. 45° 4. 105°

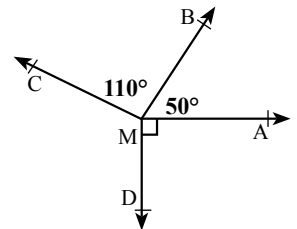


- 3 a)** Draw $\angle ABC$ its measure 120° (using the compass and the ruler) bisect $\angle ABC$.
(Don't remove the arcs)

- b) In the opposite figure:**

$$m(\angle AMB) = 50^\circ, m(\angle AMD) = 90^\circ$$

$$\text{and } m(\angle BMC) = 110^\circ. \text{ Find the } m(\angle CMD)$$



4 a) In the opposite figure:

If $DE = 5$ cm, then

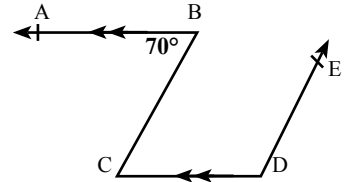
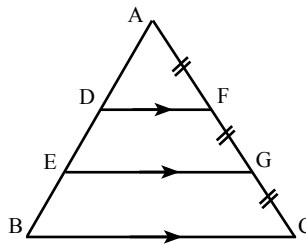
Find the length of $\overline{AB}$.

b) In the opposite figure:

$$\overrightarrow{BA} \parallel \overrightarrow{CD}, \overrightarrow{CB} \parallel \overrightarrow{DE}$$

$$m(\angle B) = 70^\circ$$

Find $m(\angle C)$ and $m(\angle D)$



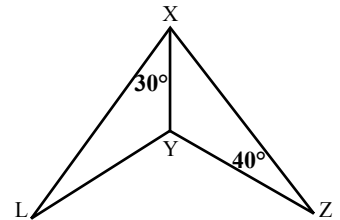
5 a) In the opposite figure:

$$m(\angle YXL) = 30^\circ, m(\angle YZX) = 40^\circ$$

Complete:

$$1. m(\angle YXZ) = \dots\dots\dots^\circ.$$

$$2. m(\angle L) = \dots\dots\dots^\circ, m(\text{reflex } \angle ZYL) = \dots\dots\dots^\circ.$$

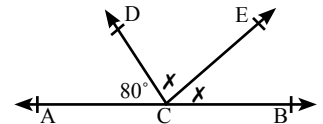


b) In the opposite figure:

$$\overrightarrow{AB} \perp \overrightarrow{CD} = \{ C \}$$

$$\overrightarrow{CE} \text{ bisects } (\angle BCD) \text{ if } m(\angle ACD) = 80^\circ$$

Find: $m(\angle BCE)$



1 Complete:

- If the sum measures of two adjacent angles are 180° , then their outer sides are
- If two St. lines intersect, then are equal in measure.
- If $m(\angle A) = 150^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots^\circ$
- If $\triangle ABC, \triangle XYZ$ are congruent, then $\angle Z \equiv \dots\dots\dots$
- When a transversal cuts two parallel lines, then the interior angles on the same side of the transversal are

2 Choose the correct answer:

1. Which of the following two angles are complementary?

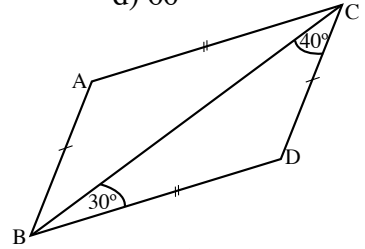
- a) $22^\circ, 68^\circ$ b) $55^\circ, 45^\circ$ c) $60^\circ, 60^\circ$ d) $100^\circ, 80^\circ$

2. If $\Delta ABC \equiv XYZ$, and $m(\angle A) = 100^\circ$, $m(\angle Y) = 40^\circ$, then $m(\angle C) = \dots\dots\dots$

- a) 70 b) 40 c) 90 d) 60

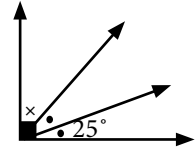
3. In the given figure $m(\angle A) = \dots\dots\dots$

- a) 30 b) 40
c) 70 d) 100°



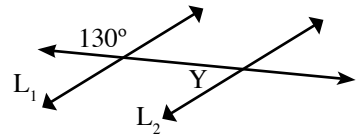
4. Using the figure: $X = \dots\dots\dots^\circ$

- a) 40 b) 60
c) 30 d) 45

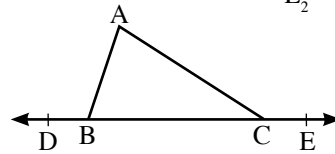


5) If $L_1 \parallel L_2$, then, $Y = \dots\dots\dots^\circ$

- a) 30 b) 60
c) 120 d) 50

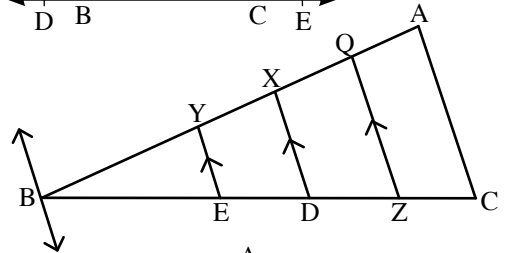


3 A) In the opposite figure, $m(\angle A) = 100^\circ$,
 $m(\angle ABD) = 145^\circ$. Find $m(\angle ACE)$



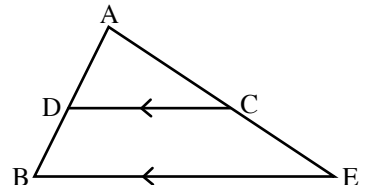
B) If $AQ = QX = XY = YB$, $DE = 2$ cm

Find: BC

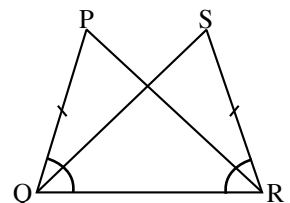


4 A) If $m(\angle A) = 80^\circ$, $m(\angle ACD) = 70^\circ$.

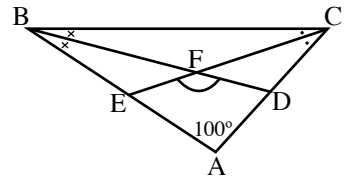
Find the value of $\angle B$



B) Are the two triangles PQR, and SRQ congruent? Why?



- 5 Using the figure $\overline{CE}$ bisects $\angle C$, $\overline{BD}$ bisects $\angle B$, $m(\angle DFE)$



Behera

15

Rasheed Education Zone – Rosetta Language School

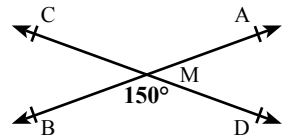
1 Complete:

- The type of the angle of measure $89^\circ 60'$ is
- If $m(\angle A) = 70^\circ$, then $m(\text{reflex } \angle A) = \dots^\circ$.
- If $\triangle XYZ \equiv \triangle LMN$, then $\overline{YZ} \equiv \dots$.
- The straight line that is perpendicular to one of two parallel lines is also
- The two triangles are congruent if two sides and in one of them are congruent to their corresponding from the other.

2 Choose the correct answer:

- a) In the opposite figure:

$\overline{AB} \quad \overline{DC} = \{M\}$, $m(\angle DMB) = 150^\circ$,
then $m(\angle AMC) = \dots$.
(30° , 150° , 90° , 180°)

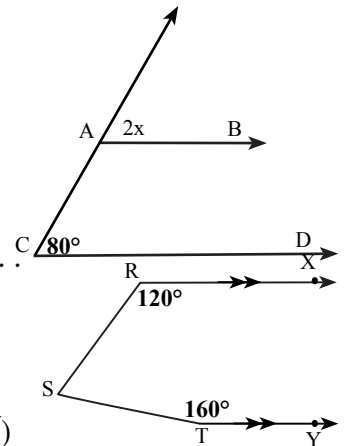


- b) The acute angle supplements angle
(acute, obtuse, right, straight)

- c) In the opposite figure:

$\overline{AB} \parallel \overline{CD}$, then $x = \dots$.
(40° , 80° , 120° , 20°)

- d) The supplement of the angle of measure 70° is
(20° , 110° , 40° , 270°)



- e) Calculate $m(\angle RST)$

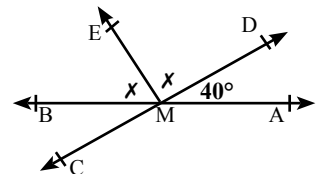
(Hint: Draw a line passing through S parallel to $\overline{RX}$ and $\overline{TY}$)

3 a) In the opposite figure:

$\overline{AB} \quad \overline{DC} = \{M\}$
 $\overline{ME}$ bisects $\angle DMB$
and $m(\angle AMD) = 40^\circ$

Find: (1) $m(\angle AMC)$

(2) $m(\angle EMB)$



- b) Draw $\angle XYZ$ of measure 125° , then use the ruler and the compass to bisect it by $\overrightarrow{YL}$ (Don't remove the arcs)

4 a) In the opposite figure:

If $\triangle ABC \equiv \triangle ABD$,

$m(\angle BAC) = 45^\circ$, $m(\angle C) = 30^\circ$

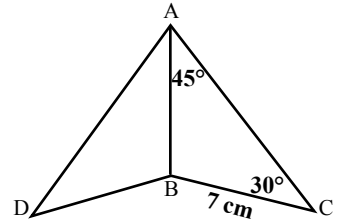
$BC = 7$ cm, then find

1. the length of $\overline{BD}$

2. $m(\angle ABC)$

3. $m(\angle ABD)$

4. $m(\angle ADB)$

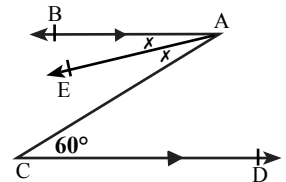


5 a) In the opposite figure:

$\overrightarrow{AB} \parallel \overrightarrow{CD}$, AE bisects $\angle BAC$

$m(\angle C) = 60^\circ$

find $m(\angle BAE)$



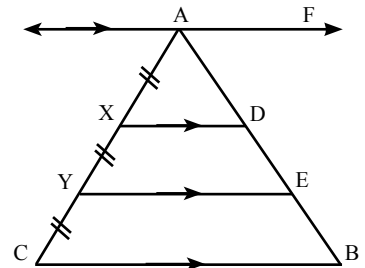
b) In the opposite figure:

$\overrightarrow{AF} \parallel \overrightarrow{DX} \parallel \overrightarrow{EY} \parallel \overrightarrow{BC}$

$AX = YX = YC$

If $AB = 12$ cm

Find the length of $\overline{BE}$



Port Said

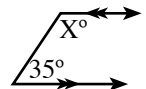
16

Educational Directorate - South education - El-Dwahy Section

1 Choose the correct answer:

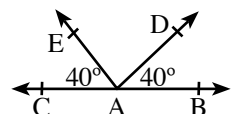
1. The value of x° in the figure opposite is

- a) $1. 55^\circ$ b) $2. 35^\circ$ c) 145° d) 180°



2. In the figure opposite $m(\angle DAE) = \dots\dots\dots$

- a) 90° b) 100° c) 120° d) 60°

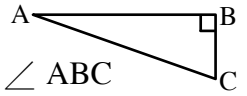


3. Two angles are said be complementary if their sum is

- a) 90° b) 180° c) 360° d) 120°

4. In this triangle the hypotenuse is

- a) $\overline{AB}$ b) $\overline{BC}$ c) $\overline{CA}$ d) $\angle ABC$



e) If $m(\angle A) = 60^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots$

- a) 180° b) 120° c) 30° d) 300°

2 a) Complete:

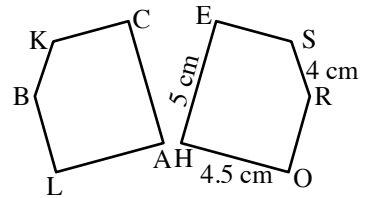
- a) A straight line that is parallel to one of two parallel lines is to the other.
b) If two straight lines intersect, then the measures of each two vertically opposite angles are

b) The two pentagons shown are congruent.

Complete: a) B corresponds to

b) $KB = \dots\dots\dots$ cm.

c) $m(\angle E) = m(\angle \dots\dots\dots)$.



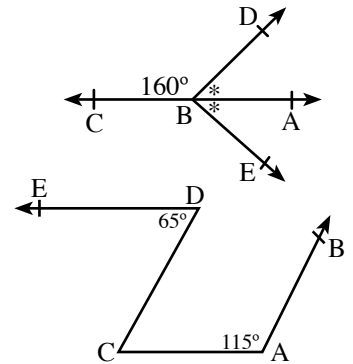
3 a) In the figure opposite, if $B \in \overleftrightarrow{AC}$,

$m(\angle DBC) = 116^\circ$ and BA bisects $(\angle DBE)$

Find $m(\angle ABD)$, $m(\angle DBE)$, $m(\angle CBE)$

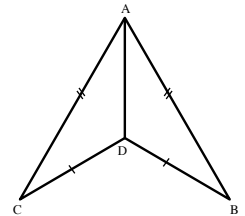
b) In the figure opposite, if $\overline{AB} \parallel \overline{CD}$,

Does $\overline{AC} \parallel \overline{DE}$? Why?



4 a) In the figure opposite $AB = AC$, $BD = CD$

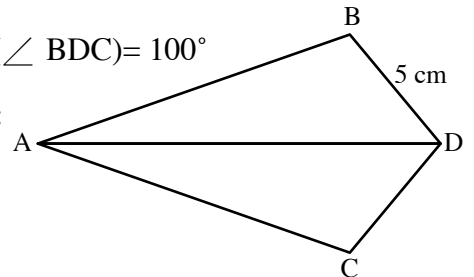
Dose $\triangle ADC \equiv \triangle ADB$? Why?



b) In the figure opposite $\triangle ABC \equiv \triangle ACD$, $m(\angle BDC) = 100^\circ$

Study the case of congruency, then deduce:

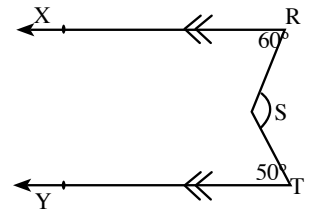
- a) $m(\angle BDA)$ b) length $\overline{CD}$



5 a) Draw $\angle ABC$ whose measure is 90° , use the ruler and compasses to bisect $\angle ABC$

b) In the given figure calculate

$m(\angle RST)$



Suez

17

South Educational Zone - Future Language School

1 Complete the following to be correct:

a) Two angles are said be complementary if their sum is

b) If: $m(\angle A) = 110^\circ$, then $m(\text{reflex } \angle A)$ $^\circ$.

c) The two vertically opposite angles are

d) Any two triangles are congruent if

e) The measure of the straight angle=

2 Choose the correct answer:

a) The angle of measure 40° complements an angle of measure

1. 50°

2. 330°

3. 60°

4. 140°

b) If: $\triangle ABC \equiv \triangle XYZ$, then $\overline{AB} \equiv$

1. $\overline{XY}$

2. $\overline{YZ}$

3. $\overline{XZ}$

4. $\overline{LM}$

c) The sum of measures of the accumulative angles at a point =

1. 360°

2. 180°

3. 90°

4. 270°

d) $\overline{AB}$ $\overleftrightarrow{AB}$.

1.

2.

3.

4.

e) In the opposite figure: $y =$

1. 50°

2. 60°

3. 40°

4. 90°

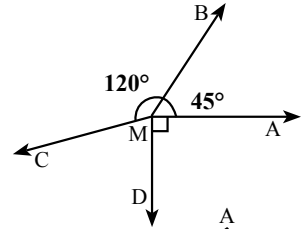


- 3 a) Draw $\angle ABC$ it's measure 90° (using the compass and the ruler) bisect $\angle ABC$ (Don't remove the arcs).

b) In the opposite figure:

$$m(\angle AMB) = 45^\circ, m(\angle AMD) = 90^\circ$$

$$\text{and } m(\angle CMB) = 120^\circ \text{ find : } m(\angle CMD)$$

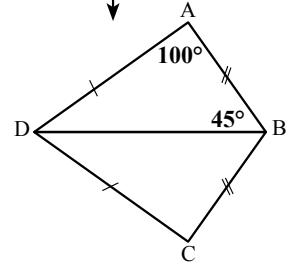


- 4 a) In the opposite figure:

$$AB = BC, DA = DC$$

$$m(\angle ABD) = 45^\circ \text{ and } m(\angle BAD) = 100^\circ$$

$$\text{Find: } m(\angle ADC)$$



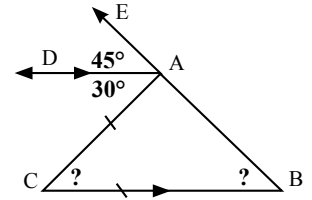
b) In the opposite figure:

$$\overrightarrow{AD} \parallel \overrightarrow{BC}, m(\angle EAD) = 45^\circ \text{ and } m(\angle DAC) = 30^\circ$$

$$\text{Find: } m(\angle E) = 90^\circ, DE = 5 \text{ cm}$$

$$\text{and } FE = 12 \text{ cm}$$

$$\text{Find: } (DF)^2$$



- 5 a) In the opposite figure:

Thw two pentagon shown are congruent

Complete:

a) B correspond to

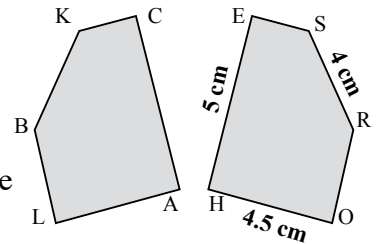
b) The polygon BLACK is congruent to the polygon

c) KB = cm.

d) $m(\angle E) = m(\angle \dots)$

e) CA =

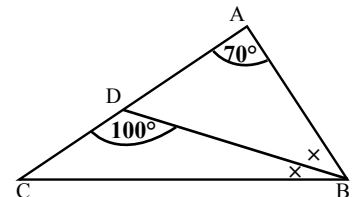
f) $m(\angle A) = \dots m(\angle \dots)$



b) In the opposite figure:

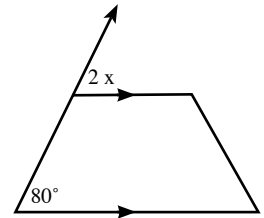
$$\overrightarrow{BD} \text{ bisects } \angle A = 70^\circ \text{ and } m(\angle CDB) = 100^\circ$$

$$\text{Find: } m(\angle C)$$



1 Choose the correct answer:

- a) If $m(\angle A) = 160^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots$.
 1) 100° 2) 80° 3) 160° 4) 200°
- b) If: $\triangle ABC \equiv \triangle XYZ$, then $\overline{BC} \equiv \dots\dots\dots$.
 1) $\overline{XY}$ 2) $\overline{YZ}$ 3) $\overline{XZ}$ 4) $\overline{AB}$
- c) The angle of measure 70° complements an angle of measure $\dots\dots\dots$.
 1) 120° 2) 20° 3) 110° 4) 90°
- d) If a straight line intersects two parallel lines, then each two alternate angles are
 1) equal in measure 2) supplementary 3) complementary 4) adjacent
- e) In this figure: What is the value of x?
 1) 40° 2) 60° 3) 80° 4) 100°



2 Complete the following:

- a) The sum of the measures of the accumulative angles at point = $\dots\dots\dots$.
- b) Two triangles are congruent if two angles and $\dots\dots\dots$ are congruent to their corresponding in the other triangle.
- c) If two straight lines are parallel to third line, then they are $\dots\dots\dots$.
- d) The measure of the straight angle = $\dots\dots\dots$.
- e) If: $\overline{AB} \equiv \overline{CD}$ then $AB - CD = \dots\dots\dots$.

3 a) Using your geometrical tools to draw $\angle ABC$ of measure 70° then bisect it.

b) In the opposite figure:

$AXYD \equiv BXYC$, $XB = 2$ cm, $DC = 8$ cm, and $BC = 3$ cm

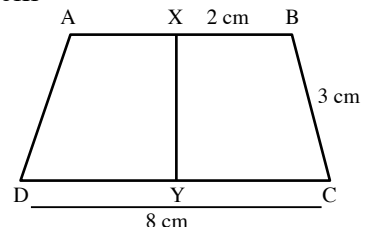
Complete: 1) $m(\angle BCY) = m(\angle \dots\dots\dots)$

2) $AB = \dots\dots\dots$ cm

3) $DY \dots\dots\dots$ cm

4) $m(\angle BXY) = \dots\dots\dots^\circ$

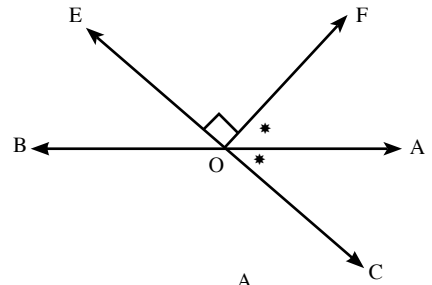
5) The perimeter of the figure ABCD = $\dots\dots\dots$ cm



4 a) In the opposite figure:

$$\overleftrightarrow{AB} \cap \overleftrightarrow{EC} = \{O\}, m(\angle FOA) = m(\angle COA)$$

Find: 1) $m(\angle AOC)$ 2) $m(\angle COB)$

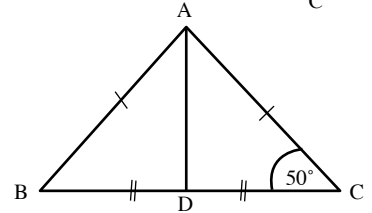


b) In the figure opposite:

$AB = AC$ and $DB = DC$, $m(\angle C) = 50^\circ$

- IS $\triangle ADC \equiv \triangle ADB$? Give reasons.

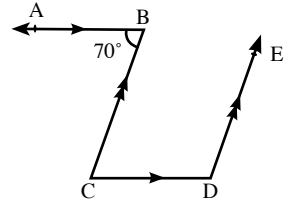
- FIND: $m(\angle B)$



5 a) In the opposite figure:

$\overleftrightarrow{BA} \parallel \overleftrightarrow{CD}$, $\overleftrightarrow{DE} \parallel \overleftrightarrow{CB}$ and $m(\angle B) = 70^\circ$

Find : $m(\angle D)$

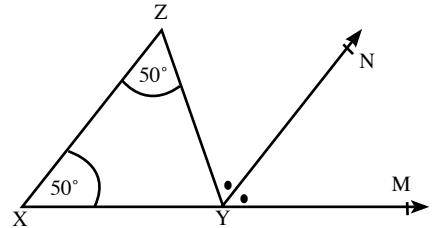


b) In the opposite figure:

$\overleftrightarrow{YN}$ bisects

$\triangle XYZ$ where $M \in \overleftrightarrow{XY}$

Show that: $\overleftrightarrow{XZ} \parallel \overleftrightarrow{YN}$

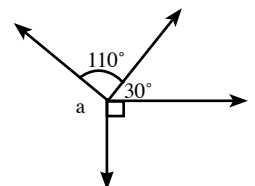


1 Complete:

a) The sum of two complementary angles =°.

b) The longest side in the right-angled triangle is

c) In the opposite figure: $a = \dots\dots\dots$



d) If two straight lines intersect, then the measure of each two vertically opposite angles are

e) When a transversal cuts two parallel lines, then the alternate angles are

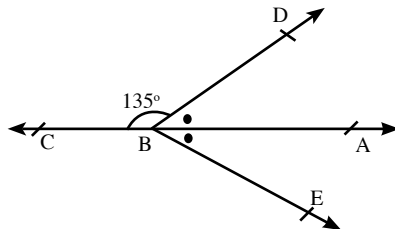
2 Choose:

a) The sum of measures of the accumulative angles at a point is° .

$$(180^\circ - 90^\circ - 306^\circ - 360^\circ)$$

b) In the figure $m \angle DBE = \dots\dots\dots^\circ$.

$$(134^\circ - 45^\circ - 90^\circ - 180^\circ)$$



c) The type of angle of measure 190° is (straight - right - obtuse - reflex)

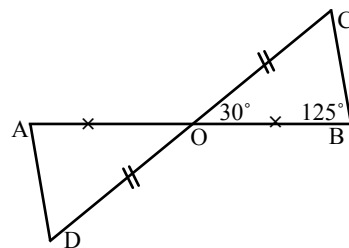
d) The supplements of the angle 117° is

$$(73^\circ - 63^\circ - 117^\circ - 27^\circ)$$

e) $OC = OD$, $OB = OA$, $m \angle (COB) = 30^\circ$

$m \angle B = 125^\circ$ then $m \angle D$ equals

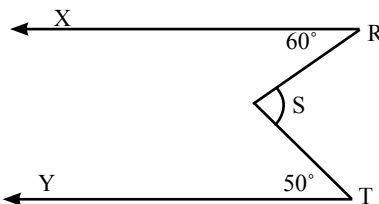
$$(25^\circ, 60^\circ, 30^\circ, 125^\circ)$$



3 a) State two cases of congruency of two triangles?

b) In the figure opposite $\overrightarrow{RX} \parallel \overrightarrow{TY}$, $m \angle R = 60^\circ$

$m \angle T = 50^\circ$. Calculate $m \angle RST$



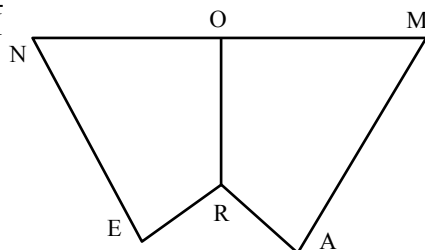
4 In the figure opposite.

$\overleftrightarrow{OR}$ is the axis of symmetry of NERAM, $O \in \overline{NM}$

a) **Complete:**

The quadrilateral NERO is congruent to the quadrilateral

- The common side of the two congruent quadrilaterals is



b) In your own words explain why each of the following statements must be true.

1. O is the mid-point of $\overline{NM}$.

2. $\angle NOR$ is congruent to $\angle MOR$

3. $\overline{RO} \perp \overline{NM}$

4. $\overline{OR}$ is congruent to $\overline{OR}$

5 a) $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$ then complete:

$$m(\angle ACD) = m(\angle \dots\dots\dots) = \dots\dots\dots^\circ$$

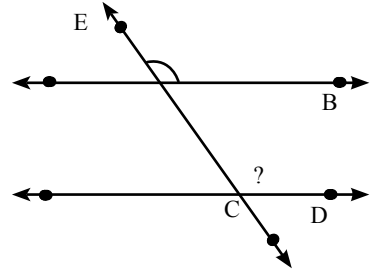
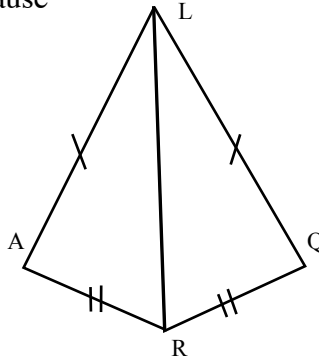
b) In the figure opposite:

$\Delta \dots\dots\dots \cong \Delta \dots\dots\dots$ because

$LQ = \dots\dots\dots$

LR is $\dots\dots\dots$

$AR = \dots\dots\dots$



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1 Choose the correct answer:

a) The sum of the measure of accumulative angles at point is $\dots\dots\dots$

1. 90° b) 108° c) 180° d) 360°

b) The complement angle of the angle whose measure 65° is $\dots\dots\dots$

1. 15° 2. 150° 3. 180° 4. 295°

c) If $L_1 \parallel L_2$ and $L_1 \parallel L_3$ then $\dots\dots\dots$

1. $L_2 \parallel L_3$ 2. $L_2 \perp L_3$ 3. L_2 intersects L_3 4. $L_1 \perp L_2$

d) $m(\angle A) 100^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots$

1. 80° 2. 100° 3. 260° 4. 170°

e) It ΔABC in which $m(\angle A) + m(\angle B) = 125$ then $m(\angle C) = \dots\dots\dots$

1. 55° 2. 65° 3. 35° 4. 105°

2 Complete each of the following:

a) Every two vertically opposite angles are $\dots\dots\dots$

- b) If: $\angle X \angle Y$ then $m(\angle X) - m(\angle Y) = \dots\dots\dots$.
- c) The outer sides of two adjacent supplementary angles are $\dots\dots\dots$.
- d) If $\triangle ABC = \triangle XYZ$ then $AC = \dots\dots\dots$.
- e) If $L_1 \cap L_2 = \emptyset$ then $L_1 \dots\dots\dots L_2$.

3 a) Complete:

Two triangles are congruent if each side of one triangle are $\dots\dots\dots$.

d) In the opposite figure

$$AC = AB, DC = DB$$

Prove that $\overrightarrow{AD}$ bisects $\angle BAC$

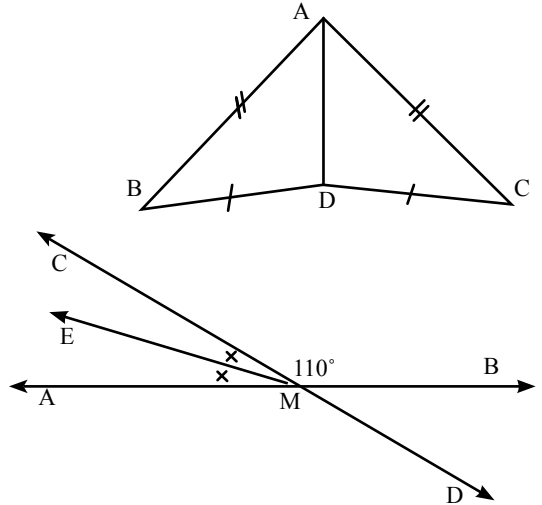
4 a) Use the geometric tools to draw an angle of measure 60° .

b) In the opposite figure,

$$m(\angle CMB) = 110^\circ$$

$$\overleftrightarrow{AB} \cap \overleftrightarrow{CD} = \{M\}, \overline{MC} \text{ bisects } \angle ABC$$

and $m(\angle AMC), (\angle AME), m(\angle AMD)$



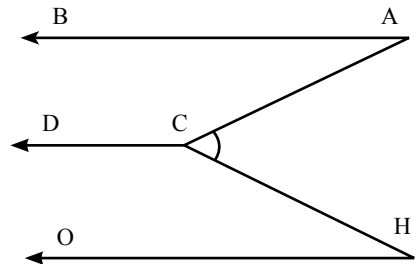
5 In the opposite figure:

$$\overline{AB} \parallel \overline{CB} \parallel \overline{HO}, m(\angle A) = 35^\circ$$

$$\text{and } m(\angle H) = 40^\circ$$

Find: 1. $m(\angle ACD)$ 2. $m(\angle DCH)$

3. $m(\angle ACH)$



Answer the following questions:

1 Choose the correct answer

1) The supplement of the angle whose measure is 75° is an angle whose measure is

- a) 60° b) 180° ☒ c) 105° d) 90°

2) If $\triangle ABC \equiv \triangle XYZ$ and $m(\angle A) + m(\angle Y) = 120^\circ$, then $m(\angle Z) = \dots\dots\dots$

- a) 50° ☒ b) 60° c) 70° d) 80°

3) The sum of measure of the accumulative angles at a point equals

- a) 180° ☒ b) 360° c) 630° d) 603°

4) If the two straight lines are perpendicular to a third, then the two straight lines are

- a) perpendicular b) congruent c) intersecting ☒ d) parallel

5) A square with perimeter 20 cm, then it's area is cm^2

- a) 4 $S = P \div 4 = 20 \div 4 = 5$
 $\text{area} = S \times S = 5 \times 5 = 25 \text{ cm}^2$ ☒ b) 5 c) 25 d) 400

6) The triangle whose perimeter is 12 cm. and the lengths of its two sides are 2 cm., 5 cm., is called

- ☒ a) isosceles b) equilateral c) right d) scalene

2 complete the following :

a) The two diagonals are perpendicular in Rhombus, Square

b) The perpendicular bisector of a line segment is called axis of symmetry

c) The two right angled triangles are congruent if equal in measure
by botinies and side

d) If $\angle(A)$ supplements $\angle(B)$ and $\angle(A) \equiv \angle(B)$ then $m\angle(B) = 90^\circ$

e) If $\overline{AB} \equiv \overline{XY}$, then $AB - XY = 0$

3 a) State any two cases of congruency of two triangles.

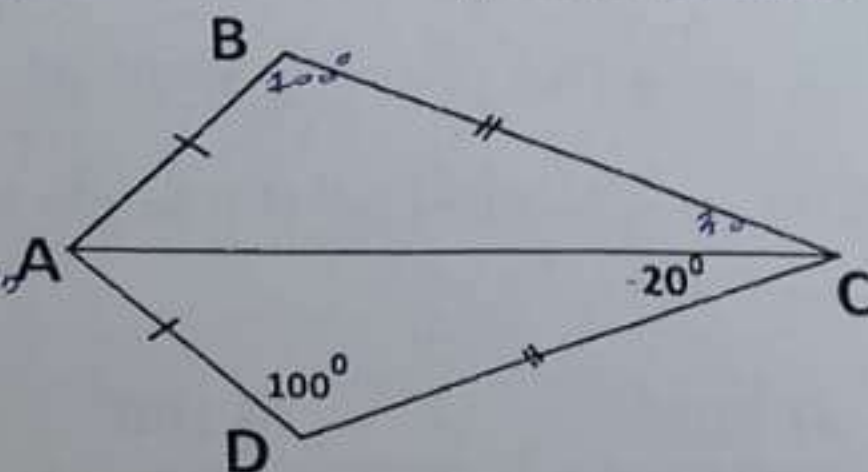
b) Draw a line segment $\overline{AB}$ of length 6 cm, then draw its symmetry axis.

c) In the opposite figure:

$$1 - \angle BAC = \angle DCB - 2 - \angle CAB = \angle CAD -$$

1) prove that $\triangle ABC \equiv \triangle ADC$ (AC is a common side)

2) find $m(\angle BAC) = 60^\circ$

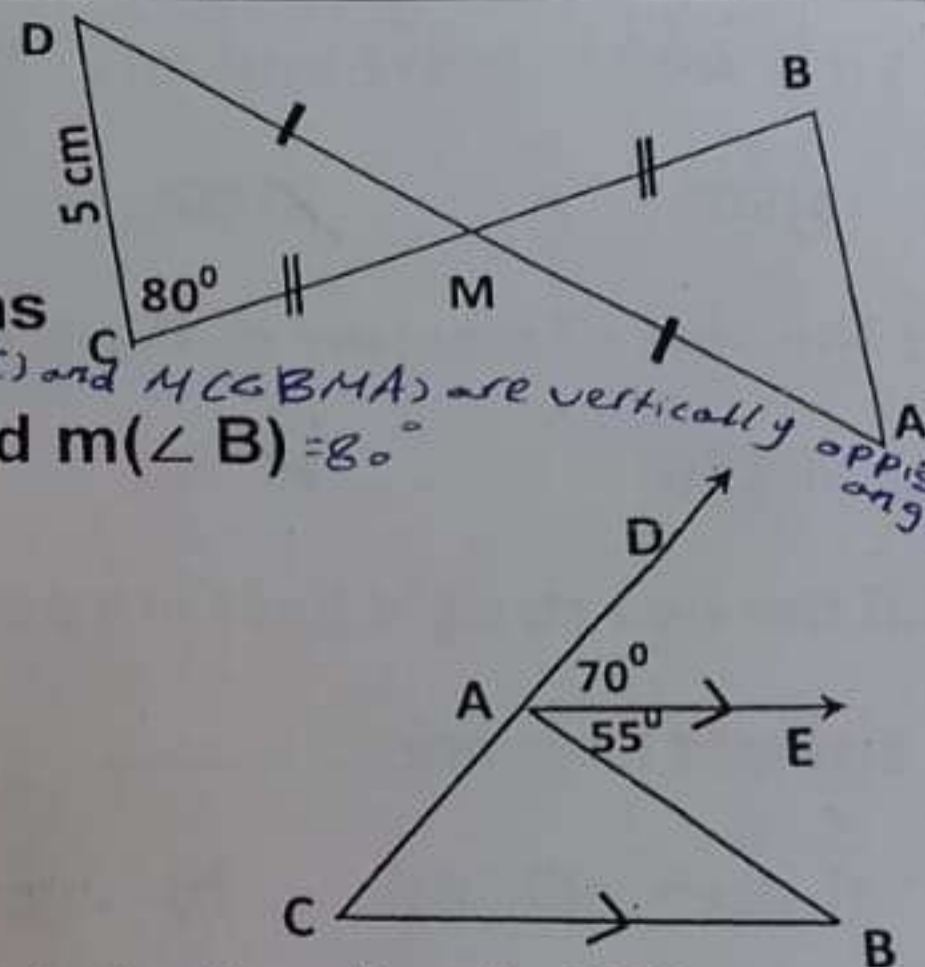


4 a) In the opposite figure:

$m(\angle C) = 80^\circ$, $\overline{CB} \cap \overline{AD} = \{M\}$, $MB = MC$

$MD = MA$, $CD = 5$ cm. Mention the conditions

1 - $\angle AMB = \angle CMD$ - 2 - $\angle CBM = \angle CDM$ - 3 - $\angle BMC = \angle DMA$ and $\angle BMA$ and $\angle CMD$ are vertically opposite angles

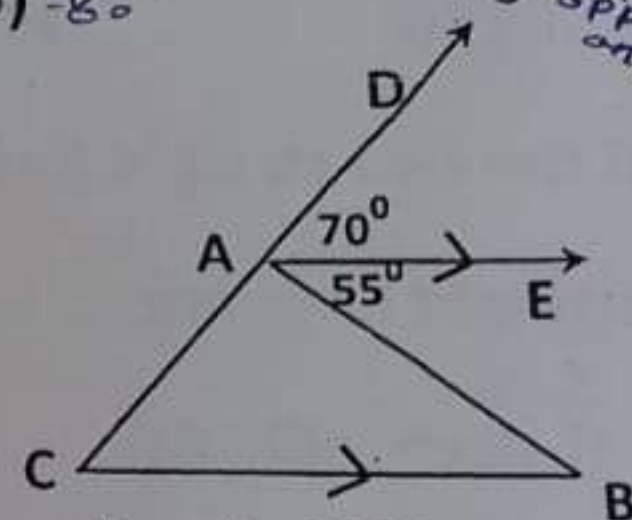


b) In the opposite figure:

ABC is a triangle where the point $A \in \overrightarrow{CD}$

$\overrightarrow{AE} \parallel \overline{CB}$, $m(\angle DAE) = 70^\circ$ and

$m(\angle EAB) = 55^\circ$, Calculate measure of each angle in the triangle ABC

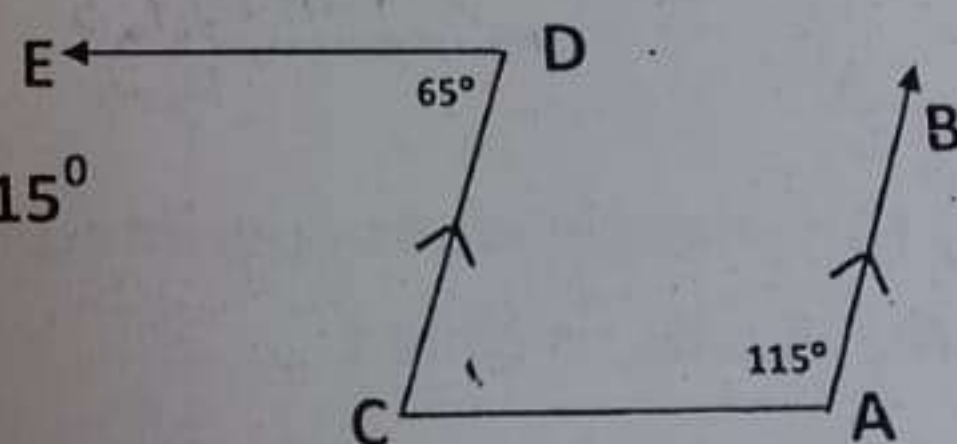


5 a) In the opposite figure:

If $\overrightarrow{AB} \parallel \overline{CD}$, $m(\angle D) = 65^\circ$, $m(\angle A) = 115^\circ$

Find $m(\angle C) = 65$

Is $\overline{AC} \parallel \overrightarrow{DE}$? (Give the reason)

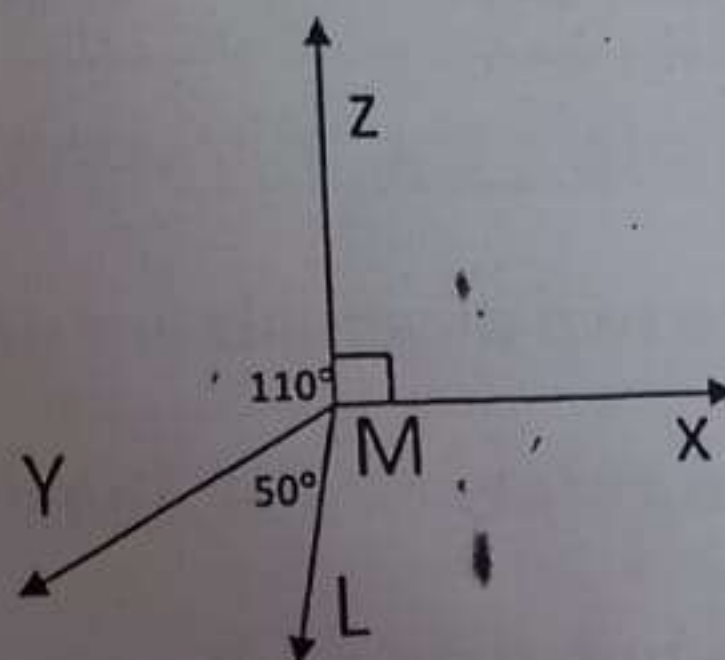


b) In the opposite figure:

$m(\angle ZMY) = 110^\circ$, $m(\angle XMZ) = 90^\circ$

$m(\angle YML) = 50^\circ$

Find by steps $m(\angle XML) = 110^\circ$





Answer the following questions :

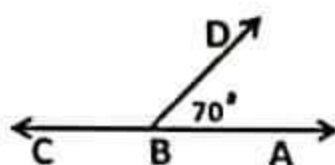
(5 marks for each question)

First question : Choose the correct answer from those given:

- a) The supplement of angle whose measure is $30^\circ = \dots\dots\dots$ [30 , 60 , 120 , 150]
b) If two straight lines intersect then each two $\dots\dots\dots$ angles have the same measure .
[corresponding , alternate , vertically opposite , adjacent]
c) The two straight lines that are perpendicular to a third , then the two straight lines are $\dots\dots\dots$.
[perpendicular , intersecting , parallel , congruent]
d) The sum of the measure of the accumulative angles at a point = $\dots\dots\dots$.
[306 , 360 , 180 , 450]
e) If $\triangle ABC \cong \triangle XYZ$ and $m(\angle A) + m(\angle B) = 100^\circ$, then $m(\angle Z) = \dots^\circ$
[50 , 80 , 90 , 100]

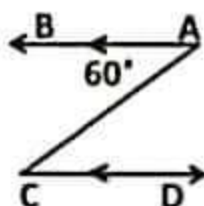
Second Question : Complete the following :

a) In the opposite figure :



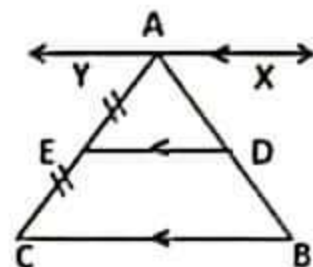
If $B \in \overleftrightarrow{AC}$,
then $m(\angle DBC) = \dots\dots\dots^\circ$

b) In the opposite figure :



If $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$,
then $m(\angle C) = \dots^\circ$

c) In the opposite figure :



$\overleftrightarrow{XY} \parallel \overleftrightarrow{DE} \parallel \overleftrightarrow{BC}$, $AE = EC$,
then $AD : AB = \dots : \dots$

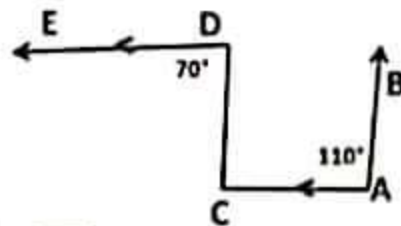
d) The perpendicular bisector of a line segment is called

e) If $\triangle ABC \cong \triangle DEO$, then $AC = \dots\dots\dots$

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Third Question :

a) In the opposite figure :



If $\overleftrightarrow{DE} \parallel \overleftrightarrow{AC}$, $m(\angle A) = 110^\circ$,
 $m(\angle D) = 70^\circ$
Find : $m(\angle C)$, is $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$?

b) In the opposite figure :

If $AB = PC$, $AD = DC$

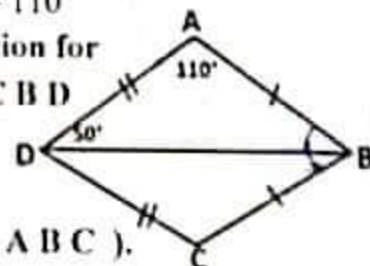
$m(\angle ADB) = 50^\circ$

$m(\angle BAD) = 110^\circ$

Write the condition for

$\triangle ABD \cong \triangle CBD$

, then find $m(\angle ABC)$.

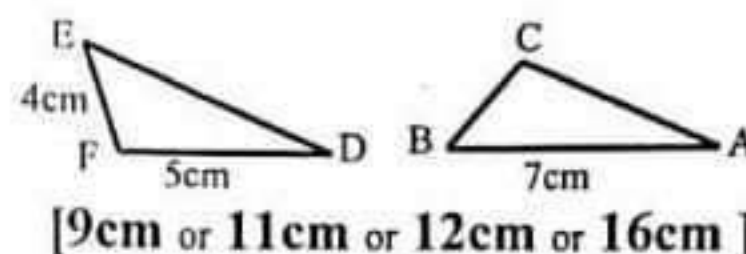


Answer the following question

(أسئلة الامتحان في صفتين)

1) Choose the correct answer :

- a) The sum of the measures of the accumulative angles at a point is
[45° or 90° or 180° or 360°]
- b) If $\triangle ABC \equiv \triangle DEF$, $m(\angle B) + m(\angle C) = 100^\circ$, then $m(\angle D) =$
[50° or 80° or 260° or 100°]
- c) the angle whose measure 100° , its type is [acute or obtuse or right or reflex]
- d) In the opposite figure:
If $\triangle ABC \equiv \triangle DEF$,
then the perimeter of $\triangle ABC =$
[9cm or 11cm or 12cm or 16cm]
- e) The number of triangles in the figure  equals [3 or 5 or 6 or 7]
- f) The measure of each of the two equal supplementary angles
[180° or 45° or 360° or 90°]

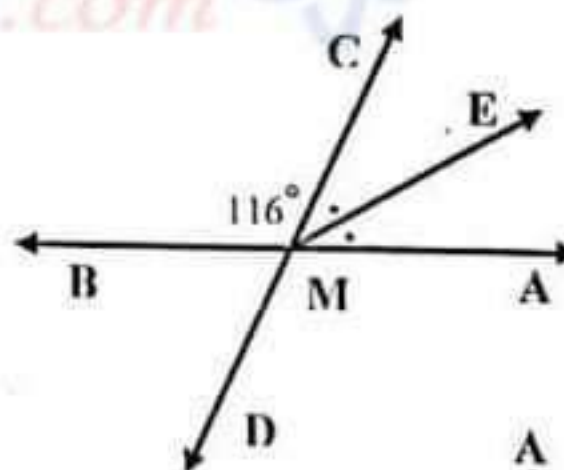


2) Complete :

- a) If $m(\angle A) = 105^\circ$, then $m(\text{reflex } \angle A) =$ $^\circ$
- b) If a straight line intersects two parallel straight lines, then each two corresponding angles are
- c) If the side length of a square is 5 cm then its area =
- d) Two triangles are congruent if two sides and the of one triangle are congruent to the corresponding parts of the other triangle.
- e) If two straight lines are parallel to a third straight line, then these two straight lines are

3)a) In the opposite figure :

M is the point of intersection of $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$,
 $\overleftrightarrow{ME}$ bisects $\angle AMC$, and $m(\angle BMC) = 116^\circ$.
 Find: $m(\angle AME)$, $m(\angle AMD)$.

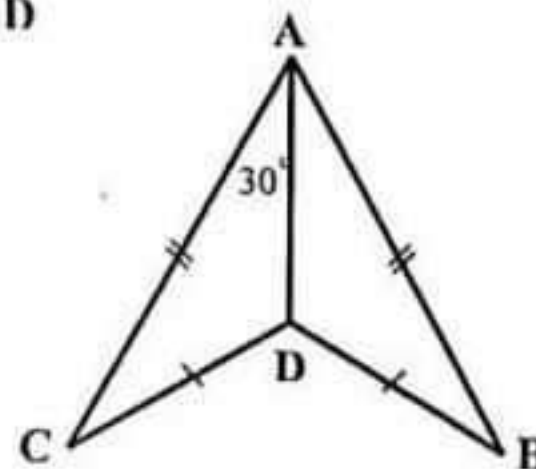


b) In the opposite figure :

AB = AC, BD = CD

 $m(\angle CAD) = 30^\circ$

Prove that $\triangle ABD \equiv \triangle ACD$
 then find $m(\angle BAC)$.

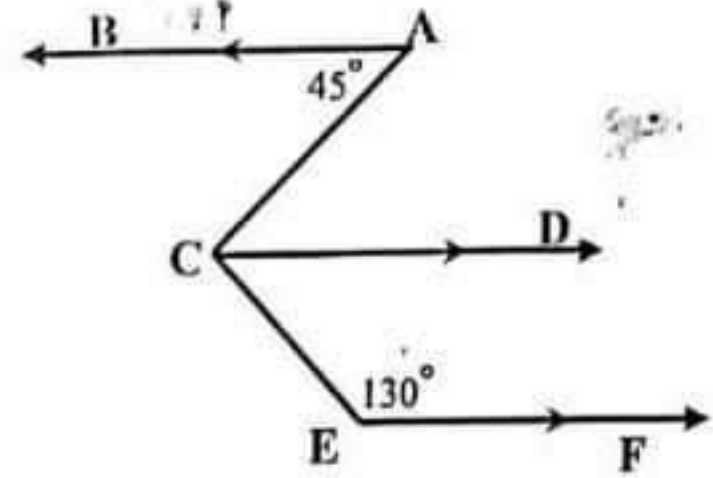


4)a) In the opposite figure :

$$\overrightarrow{AB} \parallel \overrightarrow{CD} \parallel \overrightarrow{EF},$$

$$m(\angle A) = 45^\circ, \quad m(\angle E) = 130^\circ$$

Find : $m(\angle ACE)$



b) Using the geometric instruments , draw $\angle ABC$ of measure 110° , then draw $\overrightarrow{BF}$ to bisect the angle .
(Don't remove the arcs)

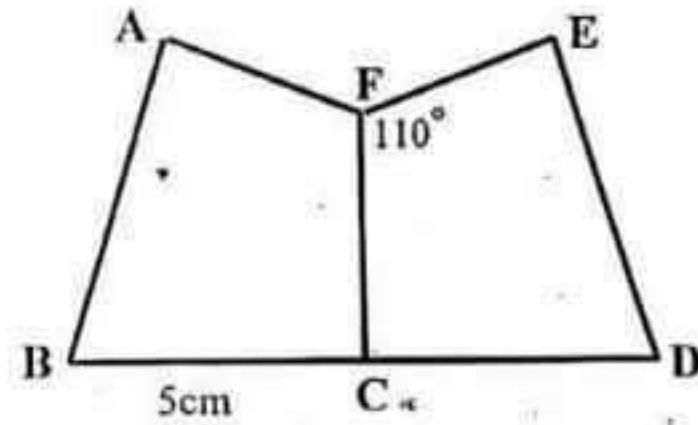
5)a) In the opposite figure :

The polygon $ABCF \cong$ The polygon $EDCF$,

$$m(\angle EFC) = 110^\circ, \quad BC = 5 \text{ cm}$$

Find :

$m(\angle AFC)$, $m(\angle AFE)$ and the length of $\overline{BD}$



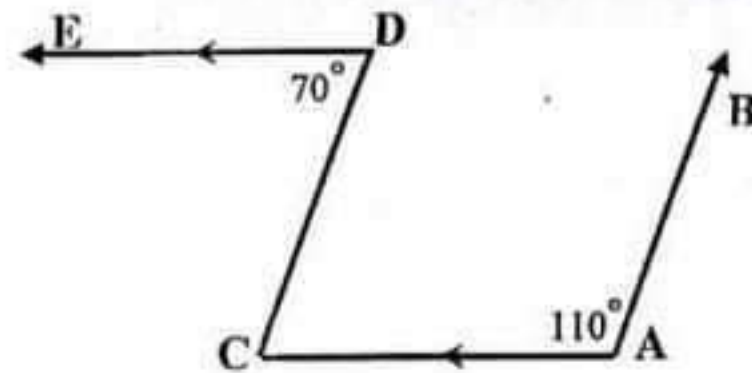
b) In the opposite figure :

$$\overrightarrow{DE} \parallel \overrightarrow{AC},$$

$$m(\angle D) = 70^\circ, \quad m(\angle A) = 110^\circ$$

Find : $m(\angle C)$

Prove that : $\overrightarrow{AB} \parallel \overrightarrow{CD}$



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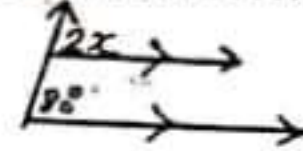
Time :

1) choose the correct answer :

~~1~~ the two diagonals are perpendicular and equal in length in the [rectangle , rhombus , square , triangle]

~~2~~ the sum of measures of the accumulative angles at point is [360° , 270° , 180° , 90°]

~~3~~ from the opposite figure $x = \dots$ [20, 30, 40, 80]



~~4~~ if $\angle x \cong \angle y$, $\angle x$, $\angle y$ are complementary angles, then $m(\angle y) = \dots$ [45° , 90° , 180° , 360°]

~~5~~ if $\triangle ABC \cong \triangle XYZ$ and $m(\angle x) + m(\angle z) = 130^\circ$ then $m(\angle B) = \dots$ [30° , 45° , 50° , 90°]

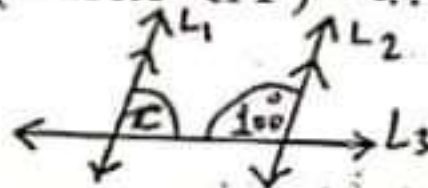
~~6~~ the acute angle supplements angle [a right , an obtuse , an acute , zero]

2) complete :

~~1~~ if $m(\angle A) = 115^\circ$ then $m(\text{reflex } \angle A) = \dots$

~~2~~ in the opposite figure :

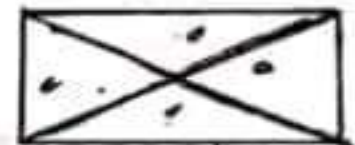
$L_1 \parallel L_2$, then $x = \dots$



~~3~~ if $\triangle ABC \cong \triangle XYZ$, then $AB = \dots$

~~4~~ the measure of straight angle is 180°

~~5~~ the number of triangles in the opposite figure equals 8



3) a) in the opposite figure : $\overleftrightarrow{AC} \cap \overleftrightarrow{DE} = \{B\}$, $m(\angle ABD) = 50^\circ$

$\overleftrightarrow{BF}$ bisect $\angle ABE$ find :

1) $m(\angle DBC)$

2) $m(\angle ABE)$

3) $m(\angle FBC)$

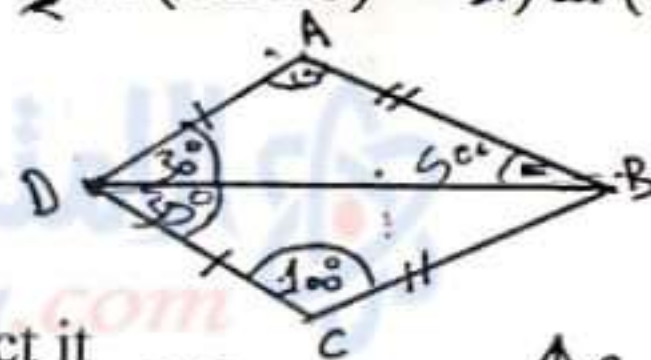
4) $m(\angle DBF)$



b) from the opposite figure :

$\triangle ABD \cong \triangle CBD$ (give reason)

Then find : $m(\angle ABD)$



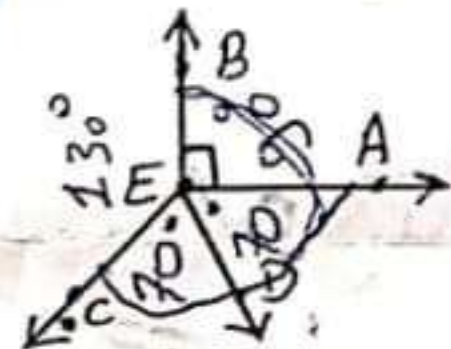
4) a) Draw $\angle ABC$ of measure 100° and bisect it

b) In the opposite figure $m(\angle BEC) = 130^\circ$, $\overleftrightarrow{EB} \perp \overleftrightarrow{EA}$

and $\overleftrightarrow{ED}$ bisect $\angle AEC$

find : 1) $m(\angle AEC)$

2) $m(\angle BED)$



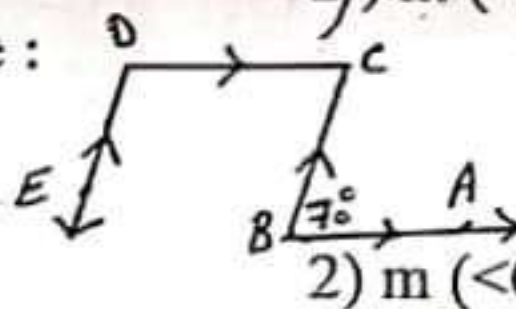
5) a) in the opposite figure :

$\overleftrightarrow{BA} \parallel \overleftrightarrow{DC}$, $\overleftrightarrow{DE} \parallel \overleftrightarrow{CB}$ and

$m(\angle ABC) = 70^\circ$

Find ; 1) $m(\angle BCD)$

2) $m(\angle CDE)$



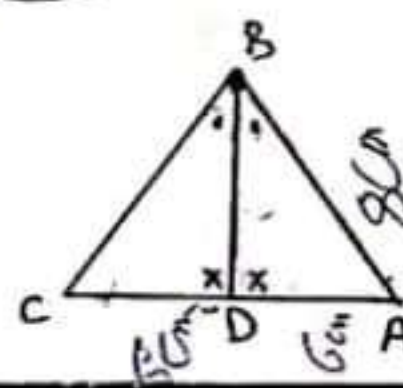
b) in the opposite figure :

$\overleftrightarrow{BD}$ bisect $\angle ABC$, $m(\angle ADB) = m(\angle ADC)$

$AB = 8 \text{ cm}$, $CD = 6 \text{ cm}$

1) is $\triangle ABD \cong \triangle CBD$? why ?

2) find : CB and AD (by steps)



Good Luck

Subject: Geometry
The First grade
preparatory
Time: 2 hour

Midterm
Exam of the
First grade
preparatory

Youssef
Elsebaei
School
languages

sama

1-choose the correct answer:

1) In the opposite figure: $AF \parallel DE \parallel CB$, $AE = EC$, then

$AD:AB = \dots\dots\dots$ (2:1, 3:2, 1:3, 1:2)

2) If two straight lines intersect, then each two.....angles have the same measures. (adjacent, alternate, corresponding, vertically opposite)

3) The two adjacent angles formed by intersecting a straight line and ray are (Complementary, supplementary, parallel, equals)

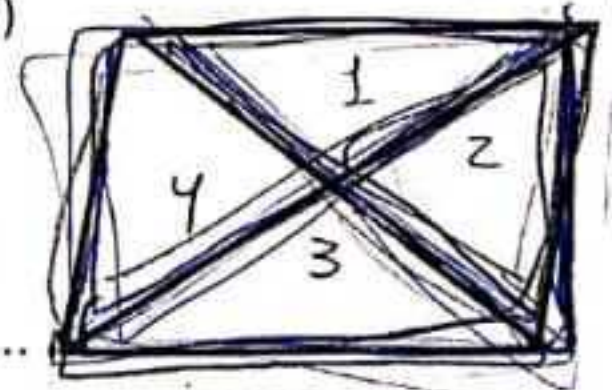
4) The axis of symmetry of a line segment is (parallel to it, equal to it, perpendicular from its midpoint, congruent to it)

5) If $\triangle ABC \cong \triangle XYZ$, then $BC = \dots\dots\dots$ (AB, XY, XZ, YZ)

6) If the ratio between two supplementary angles is 7:13 then the measure of the smaller angle isdegree. (70, 60, 63, 50)

2-Complete the following:

1) The number of triangles in the opposite figure equals ...8.....

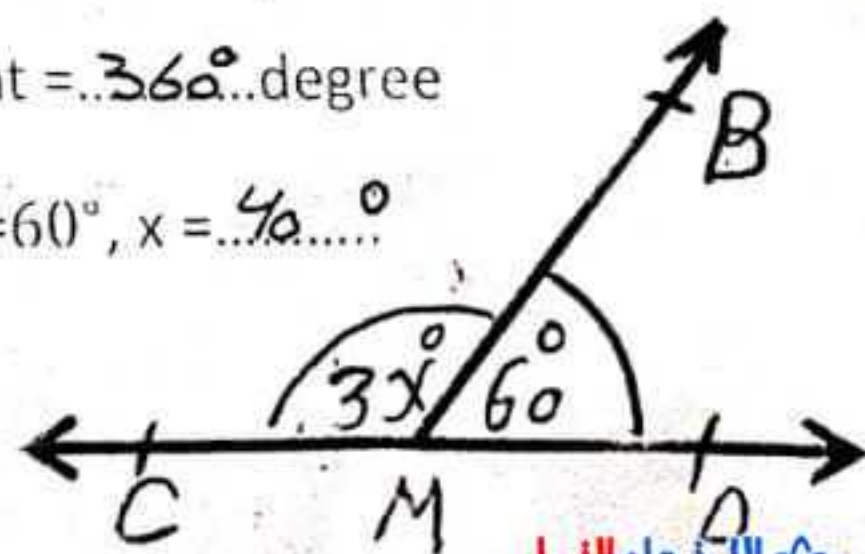


2) The two straight lines that are perpendicular to a third, then the two straight lines are...equal in measure..

3) If $\angle x$ complementary $\angle y$, $m(\angle y) = m(\angle x)$, then the $m(\angle x) = 90 \div 2 = 45$.

4) The measure of the accumulative angle at point = 360° degree

5) The opposite figure. If $MB \cap AC = \{M\}$, $m(\angle AMB) = 60^\circ$, $x = \dots\dots\dots$
 $180 - 60 = 120 \div 3 = 40^\circ$

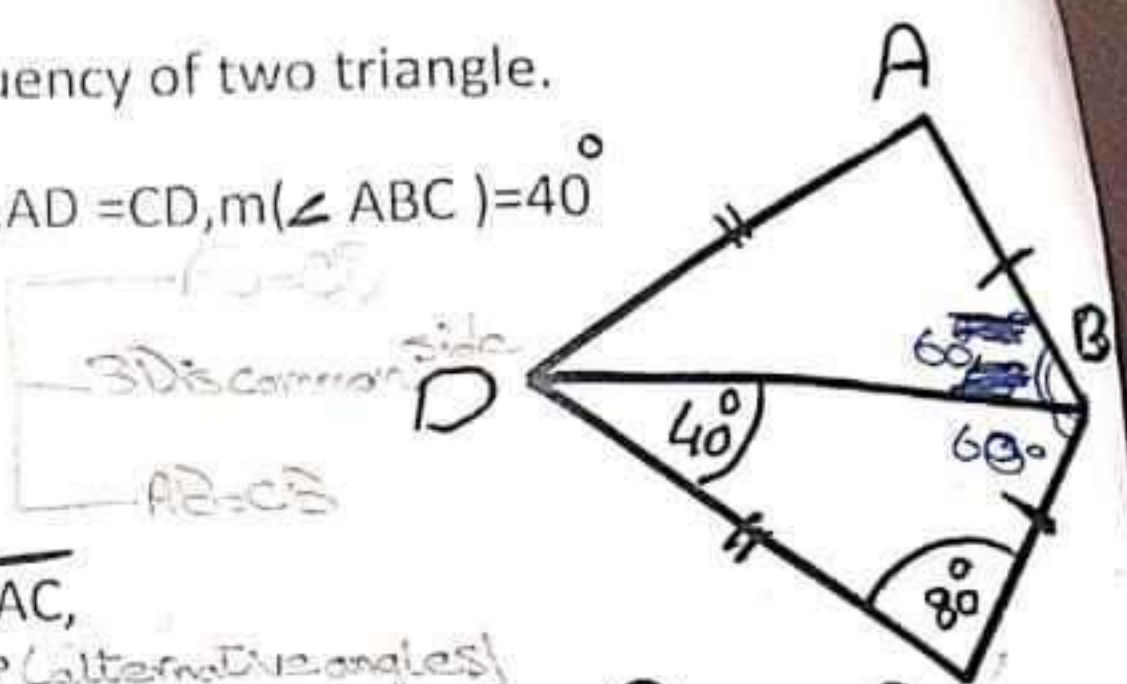


- 1st: S.A.S = Two Sides and Included angle
 2nd: A.S.A = Two Sides are equal in length and one angle is equal

Q3) a) Mention two cases of congruency of two triangle.

b) In the opposite figure $AB = BC$, $AD = CD$, $m(\angle ABC) = 40^\circ$

$m(\angle ABD) = 120^\circ$ prove that $\triangle CBD \equiv \triangle ABD$
 $(80 + 40) = 60 + 60 = 120$
 $m(\angle ABD) = 120$ And find $m(\angle ABD)$.



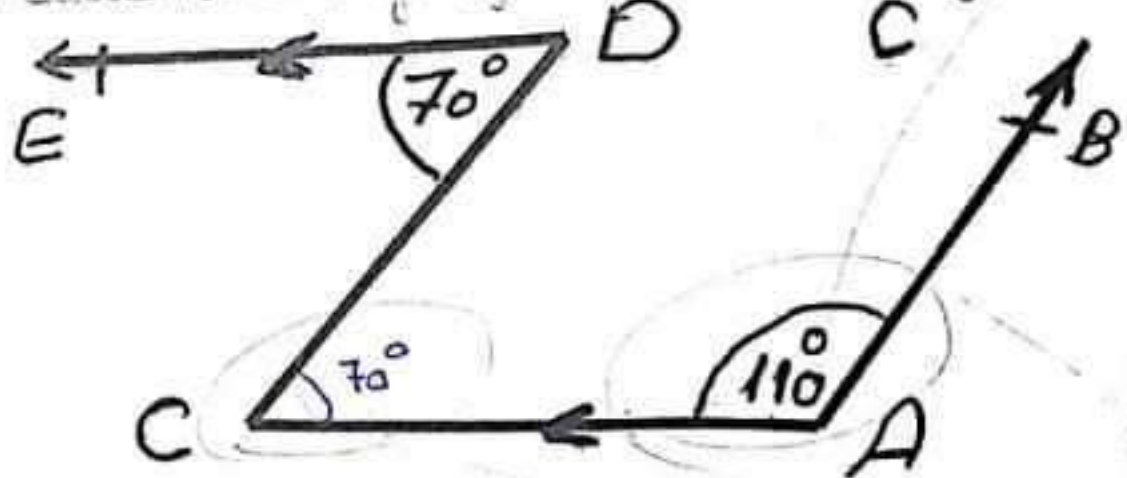
Q4) a) In the opposite figure $\overrightarrow{DE} \parallel \overrightarrow{AC}$,
 $m(\angle DCA) = m(\angle C) = 70^\circ$ (Alternative angles)

$m(\angle A) = 110$ yes, $AB \parallel CD$

$m(\angle D) = 70$

Find $m(\angle C)$. Is $\overrightarrow{AB} \parallel \overrightarrow{CD}$?

Given the reason.

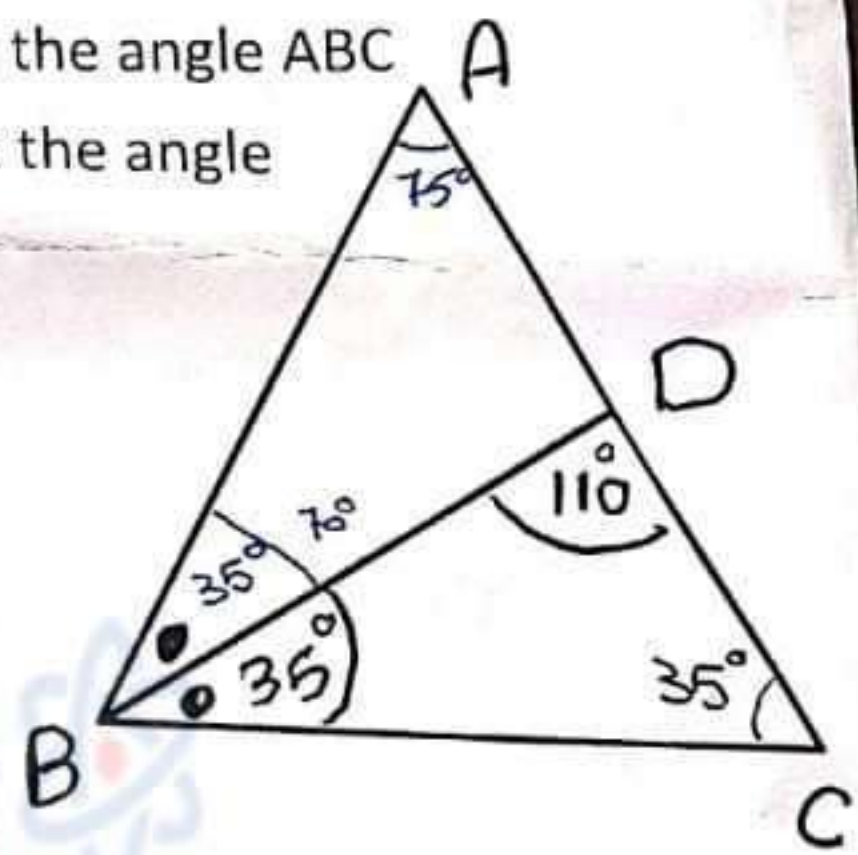


b) By using the ruler and the compasses draw the angle ABC where $m(\angle B) = 60^\circ$ and draw $\overrightarrow{BD}$ to bisect the angle

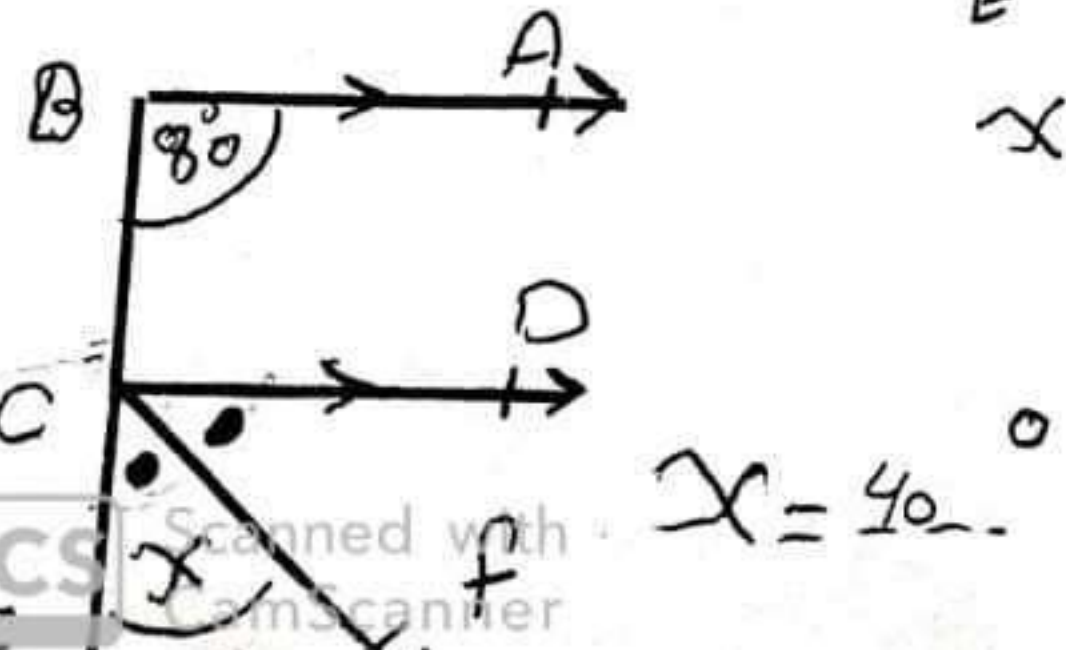
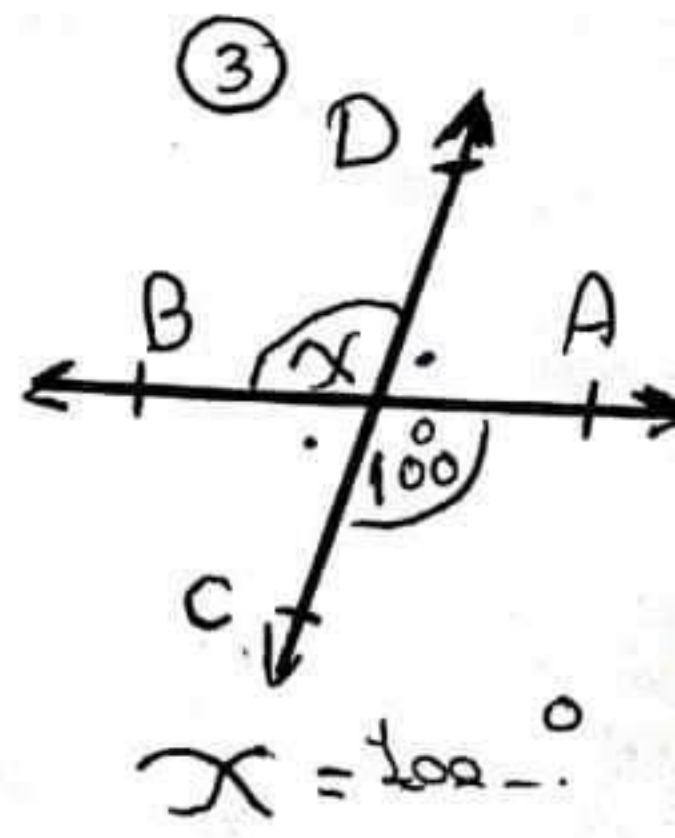
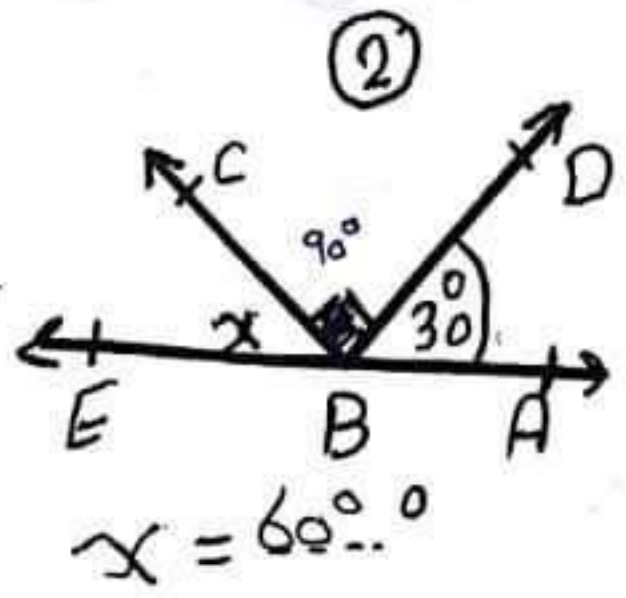
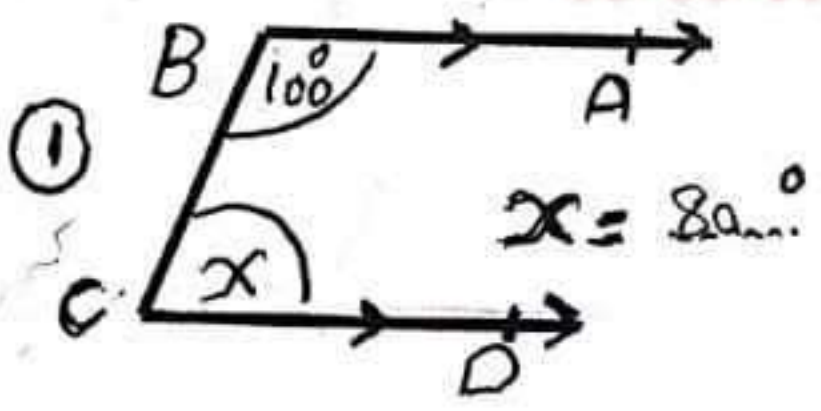
(Do not remove the arcs)

Q5) In the opposite figure BD bisects
 $m(\angle A) = 180 - (35 + 70) = 75^\circ$ $m(\angle DCB) = 180 - (35 + 110) = 35^\circ$
 $m(\angle A) = 75^\circ$ $\angle ABC$, $m(\angle BDC) = 110^\circ$, $m(\angle DBC) = 35^\circ$

Find the $m(\angle A)$. With degrees.



b) In all figures find the value of x



Question (1) Choose the correct answer :

- (1) The sum of the measures of two adjacent angles formed by a straight line and a ray is°
(360, 180, 90, 60)
- (2) If $m(\angle B) = 150^\circ$, then the $m(\text{reflex } \angle B) = \dots^\circ$
(90, 180, 210, 360)
- (3) The axis of symmetry of the line segment is to it.
(equal, congruency, parallel, perpendicular bisector)
- (4) If $\triangle ABD \equiv \triangle xyl$ then $yl \equiv \dots$
(AB, xy, BD, AD)
- (5) The angle whose measure is 37° complements an angle of measure°
(37, 53, 63, 143)
- (6) The angle whose is greater than 90° but less than 180° is called
(acute, obtuse, straight, reflected)

Question (2) Complete the following :

- (1) In the opposite figure:
 $\overrightarrow{BA} \parallel \overrightarrow{CD}$, $\overrightarrow{BC}$ bisects $\therefore m(\angle B) = \dots^\circ$ (60°)
- (2) The two triangles are congruent if two sides and are congruent with their corresponding in the other triangle.
- (3) If $m(\angle A) \equiv m(\angle B)$, and A, B are supplementary angles, then $m(\angle B) = \dots^\circ$
- (4) If a straight line intersects two parallel straight lines, then every two alternate angles
(equal)
- (5) In the opposite figure:
The two angles AMH, CMB are called
(vertical angles)

Question (3): a) In the opposite figure:

$$m(\angle AMB) = 130^\circ, m(\angle DMB) = 70^\circ,$$

$$m(\angle AMC) = 90^\circ, \text{ Find } m(\angle DMC)$$

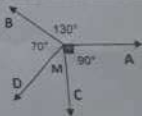
$$360 - (130 + 90 + 70) = 70^\circ$$

b) In the opposite figure:

$$m(\angle BAC) = 40^\circ, \overrightarrow{CE} \text{ bisects } \angle ACD,$$

$$m(\angle DCE) = 20^\circ$$

Prove : $\overrightarrow{AB} \parallel \overrightarrow{CD}$



Question (4):

a) Draw $\angle ABC$ where $m(\angle ABC) = 120^\circ$, using the ruler and the compasses bisect $\angle B$ by $\overrightarrow{BD}$ (Don't remove the arcs)

b) In the opposite figure:

$\triangle ABC \cong \triangle DHA$, $AH = 3\text{cm}$, $HD = 4\text{cm}$

Find the length of $\overline{CB}$, $\overline{HB}$



Question (5):

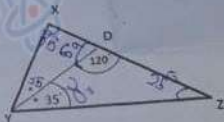
a) Mention two cases of congruency of two triangles.

b) In the opposite figure:

$\overrightarrow{DY}$ bisects $\angle XYZ$, $m(\angle DYZ) = 35^\circ$,

$m(\angle YDZ) = 120^\circ$.

Find $m(\angle X)$



Stage : First Prep.
Subject : Geometry
Time : Two hours

Mid- year Exam

1) Choose :

- 1) The angle whose measure is more than 90° and less than 180° is
- a) acute b) right c) obtuse d) zero
- 2) The supplement of the angle whose measure $30^\circ = \dots$
- a) 60° b) 150° c) 180° d) 90°
- 3) The sum of measure of the accumulative angles at a point =
- a) 30° b) 90° c) 180° d) 360°
- 4) If two straight lines are parallel to a third straight line, then these two straight lines are
- a) parallel b) perpendicular c) intersected d) orthogonal
- 5) If $m(\angle A) \equiv m(\angle B)$, $\angle A$ complements $\angle B$, then $m(\angle A) = \dots$
- a) 15° b) 30° c) 45° d) 60°
- 6) If $\triangle ABC \equiv \triangle XYZ$, then $AC = \dots$
- a) XY b) XZ c) YZ d) AB

2) Complete :

- 1) The measure of the straight angle equals
- 2) If two straight lines intersect, then each two vertically opposite angles are
- 3) If $m(\angle A) = 100^\circ$, then $m(\text{reflex } \angle A) = \dots^\circ$
- 4) The complement of an angle of measure 50° is $\dots^\circ$
- 5) The two adjacent angles formed by intersecting a straight line and a ray are

(2019/2020)

Giza Governorate
Al Haram Educational Directorate
Supervision of Mathematics

3) a) Mention two cases of congruency of two triangles

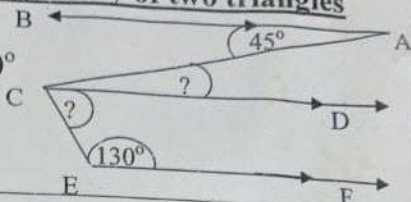
b) If $\overline{AB} \parallel \overline{DC} \parallel \overline{EF}$

and $m(\angle A) = 45^\circ$, $m(\angle E) = 130^\circ$

Find 1) $m(\angle ACD)$

2) $m(\angle DCE)$

(with steps)



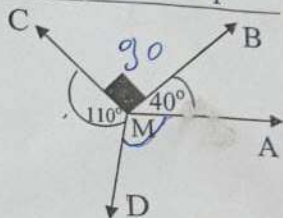
4) a) In the given figure :

$m(\angle AMB) = 40^\circ$, $m(\angle BMC) = 90^\circ$,

$m(\angle CMD) = 110^\circ$

Find : $m(\angle AMD)$

(with steps)



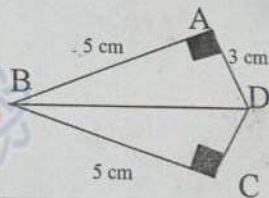
b) In the given figure :

If $m(\angle BAD) = m(\angle BCD) = 90^\circ$

, $AB = CB = 5\text{ cm}$

1) Are $\triangle BAD \cong \triangle BCD$? Give reason

2) Find the length of $\overline{CD}$

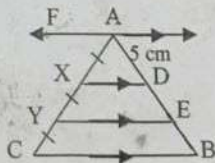


5) a) In the given figure :

$\overline{AF} \parallel \overline{DX} \parallel \overline{EY} \parallel \overline{BC}$,

$AX = XY = YC$ and $AD = 5\text{ cm}$

Find the length of $\overline{DE}$ and $\overline{AB}$

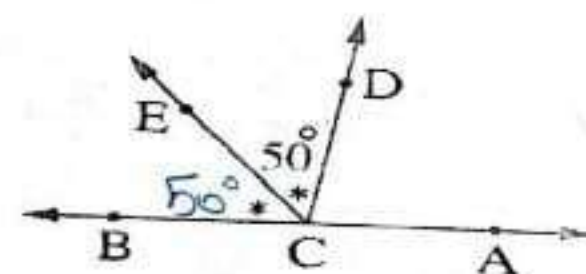


b) Draw $\angle ABC$ where $m(\angle B) = 80^\circ$, using the ruler and the compasses bisect $\angle B$ by $\overline{BD}$ (don't remove the arcs)



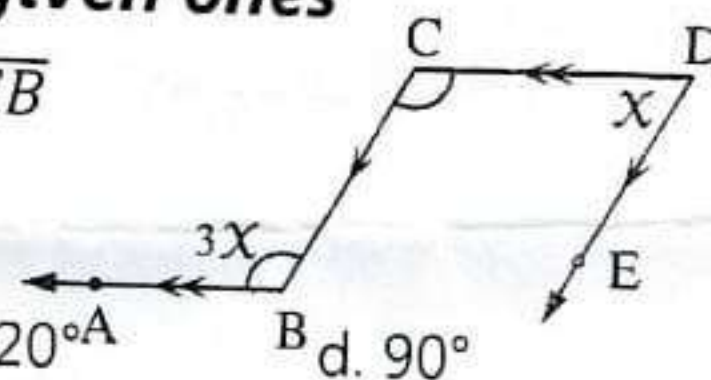
1- Complete:

- ✓ a) If $L_1 \parallel L_2$ and $L_1 \perp L_3$, then $L_3 \dots\dots\dots L_2$.
- ✓ b) If $(\angle A) = 160^\circ$ then $m(\text{reflex} \angle A) = \underline{\hspace{2cm}}^\circ$.
- ✓ c) If $\angle A$ supplements $\angle B$ and $\angle A \equiv \angle B$, then $m(\angle B) = \underline{\hspace{2cm}}^\circ$.
- ✓ d) The two complement angles are the two angles whose sum of their measures is $\underline{\hspace{2cm}}$.
- ✓ e) In the opposite figure $m(\angle ECA) = \underline{\hspace{2cm}}^\circ$.



2 Choose the correct answer from the given ones

- ✓ 1- in the opposite figure: $\overline{CD} \parallel \overline{BA}$, $\overline{DE} \parallel \overline{CB}$
then : $x = \dots\dots\dots$



- 2- If $\triangle ABC \equiv \triangle XYZ$, $m(\angle A) + m(\angle B) = 100^\circ$, then $m(\angle Z) = \underline{\hspace{2cm}}$

- a. 60° b. 45° c. 120° d. 90°

- ✓ 3- If the ratio between the measures of two supplementary angles is 5 : 13, then the measure of the smaller angle is $\underline{\hspace{2cm}}^\circ$

- a. 50 b. 130 c. 150 d. 180

- ✓ 4- The angle of measure 179° is $\underline{\hspace{2cm}}$ angle.

- a. acute b. right c. obtuse d. straight.

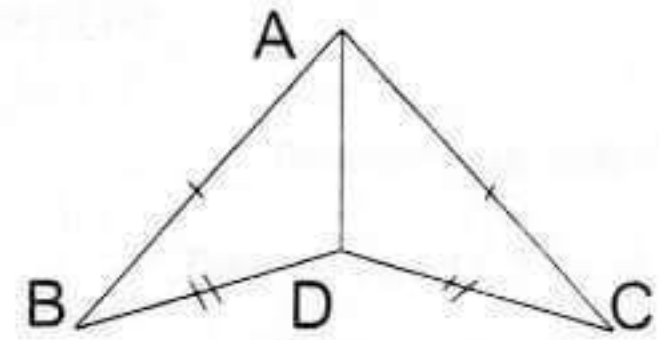
- ✓ 5- $\overline{XY} \underline{\hspace{2cm}} \overline{XY}$

- b. $\in$ b. $\notin$ c. $\subset$ d. $\not\subset$

3- a) In the opposite figure:

$$AC = AB, DC = DB$$

Is $\triangle ADB \equiv \triangle ADC$? why

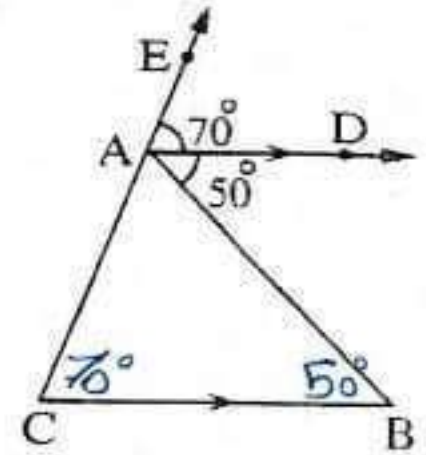


b) In the opposite figure:

$$\overrightarrow{AD} \parallel \overrightarrow{BC}, E \in \overrightarrow{CA}$$

$$m(\angle DAE) = 70^\circ \text{ and } m(\angle DAB) = 50^\circ$$

Find the measures of each angles the triangle ABC

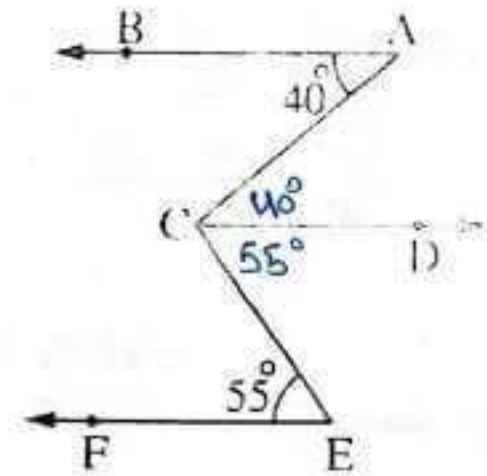


4- a) In the opposite figure:

$$m(\angle A) = 40^\circ, m(\angle E) = 55^\circ$$

$$\overrightarrow{AB} \parallel \overrightarrow{EF} \text{ and } \overrightarrow{AB} \parallel \overrightarrow{CD}$$

Find: $m(\angle ACE)$



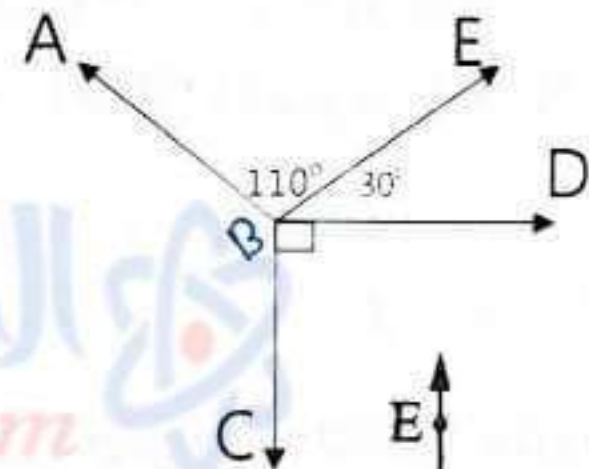
b) In the opposite figure:

$$m(\angle DBE) = 30^\circ$$

$\angle CBD$ is right angle

$$m(\angle EBA) = 110^\circ$$

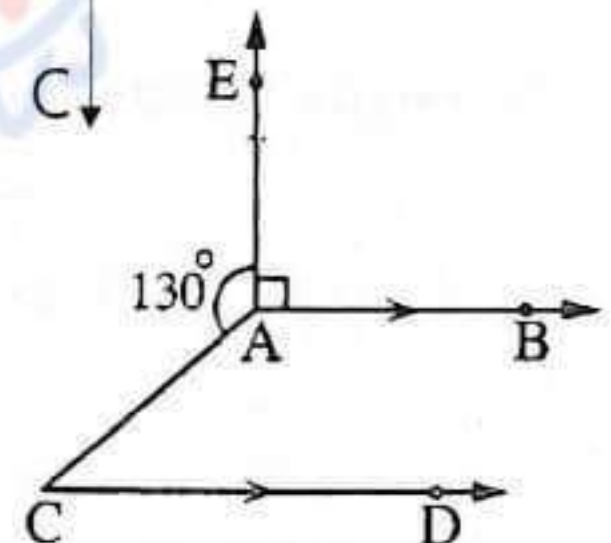
Find: $m(\angle ABC)$



5) a- In the opposite figure:

$$\overrightarrow{AB} \parallel \overrightarrow{CD}, m(\angle EAC) = 130^\circ \text{ and } m(\angle EAB) = 90^\circ$$

Then find $m(\angle C)$



b- Using the ruler and the compasses, draw $\triangle ABC$ in which $AB = AC = 5 \text{ cm.}$, $BC = 8 \text{ cm.}$, then draw $\overrightarrow{AD} \perp \overrightarrow{BC}$ to cut $\overrightarrow{BC}$ at D .

Find the length of AD . (don't remove the arcs)

First Term Exam 2019/ 2020

Answer the following questions

(The exam in two papers)
((Allowed to use a calculator))

الورقة الاولى

Q1 : Choose the correct answer :

- 1) If polygon ABCD $\equiv$ polygon XYZL, then AD =
a) XY b) YZ c) LZ d) XL
- 2) The diagonals are perpendicular in ...
a) Parallelogram b) rhombus c) rectangle d) trapezium
- 3) $\vec{AB} \cup \vec{AC} = \dots\dots\dots$
a) $\vec{AB}$ b) $\vec{AC}$ c) $\angle BAC$ d) $\emptyset$
- 4) If $m(\angle X) = 2 m(\angle Y)$, $\angle X$ and $\angle Y$ are two complementary angles ,
Then $m(\angle Y) = \dots\dots\dots$
a) 30° b) 45° c) 60° d) 90°
- 5) The number of triangles in the figure equals
a) 4 b) 6 c) 7 d) 8
- 6) If two straight lines are parallel to a third straight line, then these two straight lines are
a) perpendicular b) parallel c) congruent d) intersecting

www.exam-eg.com



Q2: Complete each of the following :

- 1) If $\triangle ABC \equiv \triangle XYZ$, $m(\angle X) = 40^\circ$, $m(\angle C) = 60^\circ$, then $m(\angle Y) = 80^\circ$
- 2) If the perimeter of an equilateral triangle is 36 cm, then its side length is 12 cm
- 3) The perpendicular bisector of a line segment is called...axis of symmetry
- 4) If two straight lines intersect, then each two vertically opposite angles are equal
- 5) The two right -angled triangles are congruent if the...hypotenuse...
and a side of one triangle are congruent to the corresponding element
in the other triangle.

بقية الاسئلة في الورقة الثانية

مركز الامتحان التعليمي

Q3 In the opposite figure:
 $m(\angle AMB) = 60^\circ$, $m(\angle AMD) = 90^\circ$, $m(\angle BMC) = 110^\circ$.
 Find $m(\angle CMD)$ $360^\circ - (60^\circ + 90^\circ + 110^\circ) = 360^\circ - 260^\circ = 100^\circ$

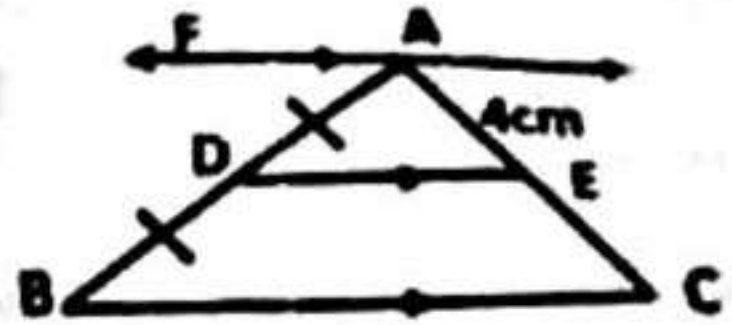


[b] In the opposite figure:

$AF \parallel DE \parallel BC$,

$AD = DB$, $AF = 4\text{cm}$

Find the length AC (Give reason)



Q4 [a] By using your geometric instrument draw the triangle ABC where

$AB = 3\text{cm}$, $BC = 4\text{cm}$, $AC = 5\text{cm}$, then bisect $\angle B$. (Don't remove the arcs)



[b] In the figure opposite:

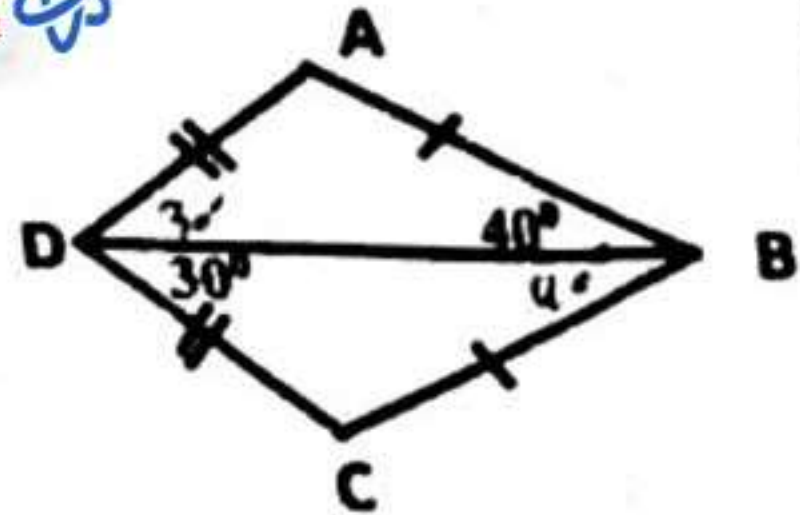
$AB = CB$, $AD = CD$

, $m(\angle ABD) = 40^\circ$, $m(\angle CDB) = 30^\circ$

(1) Is $\triangle ABD \cong \triangle CBD$? Why?

(2) find $m(\angle A)$

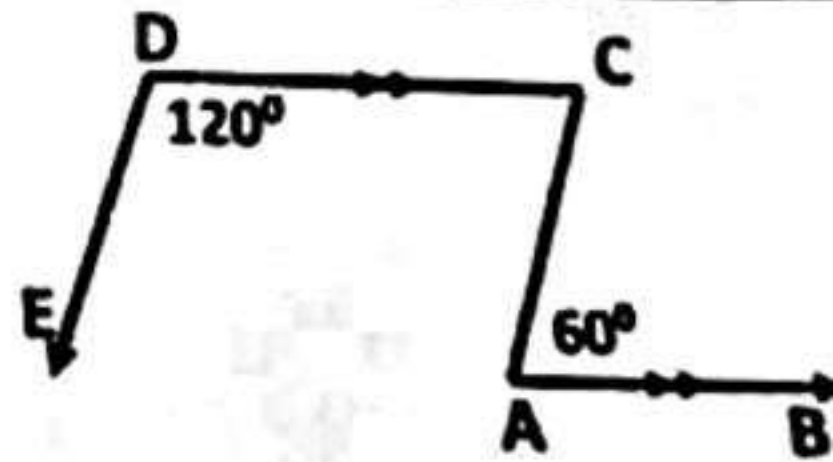
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Q5 [a] In the figure opposite:

$\overrightarrow{AB} \parallel \overrightarrow{DC}$, $m(\angle A) = 60^\circ$, $m(\angle D) = 120^\circ$

1) Find $m(\angle C)$ 2) Is $\overrightarrow{AC} \parallel \overrightarrow{DE}$? why?

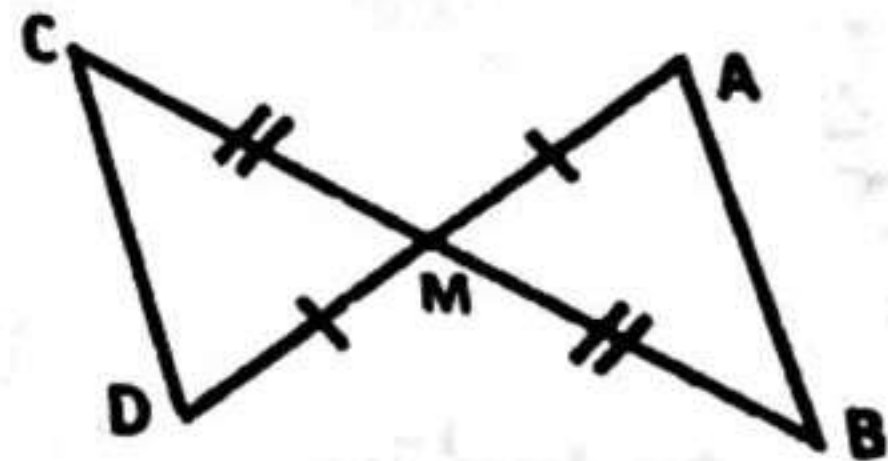


[b] In the figure opposite:

$\overline{AD} \cap \overline{BC} = \{M\}$

$BM = MC$, $AM = MD$

Write the conditions for $\triangle AMB$, $\triangle DMC$
 To be congruent?



انتهت الامثلة

With my Best wishes

مركز الامتحان التعليمي

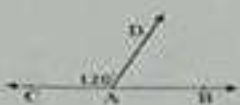
First question: Choose the correct answer.

1) In the opposite figure:

If $A \in \overleftrightarrow{BC}$ and $m(\angle CAD) = 120^\circ$

then $m(\angle BAD) = \dots\dots\dots$

- a) 30° b) 60° c) 90° d) 120°



2) If $m(\angle A) = 90^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots$

- a) 0° b) 90° c) 180° d) 270°

3) If $\triangle ABC \cong \triangle XYZ$, then $AB = \dots\dots\dots$

- a) BC b) YZ c) XZ d) XY

4) In $\triangle ABC$, if $m(\angle A) + m(\angle B) = 130^\circ$, then $m(\angle C) = \dots\dots\dots$

- a) 40° b) 50° c) 65° d) 130°

5) The angle whose measure is more than 90° and less than 180° is called angle

- a) an acute b) a right c) an obtuse d) a reflex

6) The number of triangles in the figure  equals

- a) 4 b) 6 c) 7 d) 8

Second question: Complete:

1) The angle whose measure is 50° complements an angle of measure and supplements an angle of measure

2) If the polygon $ABCD \cong$ the polygon $XYZL$, then $\overline{DA} \equiv \dots\dots\dots$,
 $m(\angle BCD) = m(\angle \dots\dots\dots)$

3) Two triangles are congruent if each of one triangle is congruent to the corresponding of the other triangle

4) The straight line that is perpendicular to one of two parallel lines is to the other

5) The perpendicular bisector of a line segment is called

Seba notebook

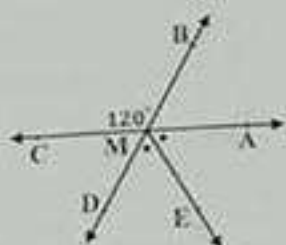
Third question: a) Using the geometric instruments, Draw $\triangle ABC$ in which $AB = AC = 4 \text{ cm}$, $BC = 5 \text{ cm}$, then bisect $\angle B$ by a bisector $\overrightarrow{BD}$ where $D \in \overline{AC}$ (Don't remove the arcs)

b) In the opposite figure:

M is the point of intersection of $\overleftrightarrow{AC}$ and $\overleftrightarrow{BD}$

$\overrightarrow{ME}$ bisects $\angle AMD$ and $m(\angle BMC) = 120^\circ$

Find: $m(\angle AMD)$ and $m(\angle EMD)$ (give reason)



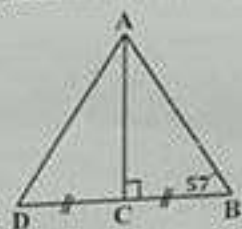
Fourth question:

a) In the opposite figure:

$CB = CD$, $\overline{AC} \perp \overline{BD}$, $AB = 5 \text{ cm}$

and $m(\angle B) = 57^\circ$

Study the case of congruency, then deduce $m(\angle ADC)$, the length of $\overline{AD}$



b) In the opposite figure:

$\overline{AB} \cap \overline{CD} = \{E\}$, $AE = ED$

and $m(\angle A) = m(\angle D)$

mention the conditions for $\triangle ACE$, $\triangle DBE$ to be congruent



Fifth question:

a) In the opposite figure:

$\overline{AD} \parallel \overline{BC}$, $m(\angle DAB) = 50^\circ$ and $m(\angle DAE) = 70^\circ$

Find: 1) $m(\angle C)$

2) $m(\angle B)$

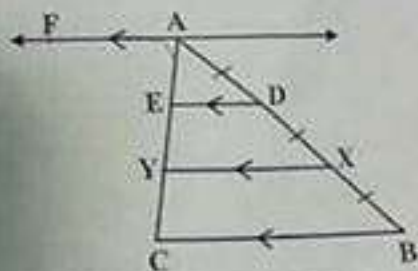


b) In the opposite figure:

$\overleftrightarrow{AF} \parallel \overleftrightarrow{DE} \parallel \overleftrightarrow{XY} \parallel \overleftrightarrow{BC}$, $AC = 18 \text{ cm}$

and $AD = DX = XB$

Find the length of $\overline{EC}$ (give reason)



(1) Complete :

- 1) The acute angle complements acute angle.
- 2) If the two straight lines intersect, then each two vertically opposite angles are equal In measure.
- 3) The two bisectors of two adjacent supplementary angles are V.O.A
- 4) If the perimeter of a square is 28 cm, then its area = 49 cm^2
- 5) The perpendicular on the midpoint of a line segment is called right angle

(2) Choose the correct answer :

- 1) If $\triangle ABC = \triangle XYZ$ $m(\angle x) + m(\angle Z) = 130$, then $m(\angle B) = \dots\dots\dots$
(30°, 50°, 75°, 100°)
- 2) The measure of straight angle = 180°
(90°, 120°, 75°, 180°)
- 3) If two straight lines are parallel to a third straight line, then the two straight lines are Parallel
(Parallel, perpendicular, equal, intersecting)
- 4) If $m(\angle A) = 90^\circ$, then $m(\text{reflex } \angle A) = \dots\dots\dots$
(270°, 180°, 90°, 0°)
- 5) If the ratio between two supplementary angle 1:2:3 then the measure of the smaller angle = 20°
$$\begin{array}{l} a^1 : a^2 : \text{sum} \\ 2 : 3 : 5 \\ x : y : 180 \end{array} \quad S = \frac{180 \times 2}{5} =$$

(20°, 72°, 36°, 108°)
- 6) The sum of measure of the accumulative angles at a point equal 360°
(180°, 360°, 90°, 270°)

(3) (A) In the opposite figure :

If $\overline{MB} \cap \overline{AC} = \{M\}$, $m(\angle AMB) = 60^\circ$, $m(\angle BMC) = 3X^\circ$

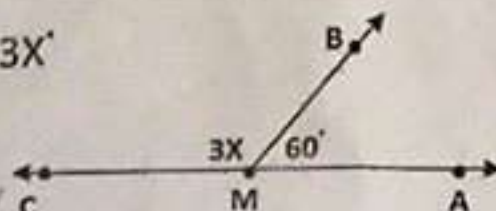
then find the value of X

$$3X + 60 = 180$$

$$3X = 180 - 60$$

$$3X = 120$$

$$X = \frac{120}{3} = 40^\circ$$



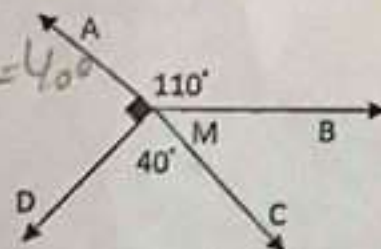
(B) In the opposite figure:

$m(\angle AMB) = 110^\circ$, $m(\angle AMD) = 90^\circ$, $m(\angle DMC) = 40^\circ$

Find $m(\angle BMC)$

$$360 - (110 + 40 + 90)$$

$$= 120^\circ$$



(4) (A) by using your geometric instruments draw

$\angle ABC$ whose measure 80° , Draw $\overrightarrow{BF}$ to bisect the angle.

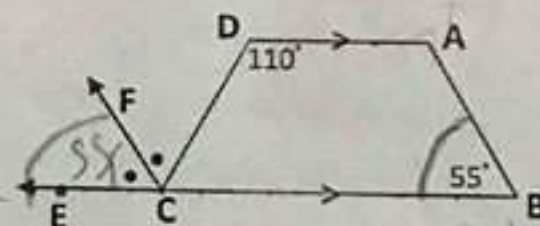
(B) In the opposite figure:

$\overline{AD} \parallel \overline{BE}$, $\overrightarrow{CF}$ bisect $\angle DCE$, $E \in \overline{BC}$

$m(\angle ABC) = 55^\circ$, $m(\angle ADC) = 110^\circ$

Is $\overline{AB} \parallel \overline{CF}$? , why?

yes



(corresponding)

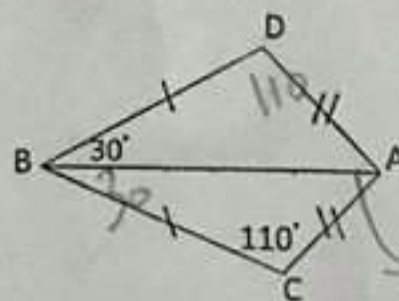
(5) (A) State three cases of congruency of two triangles.

(B) In the opposite figure:

$m(\angle DBA) = 30^\circ$, $m(\angle C) = 110^\circ$

Does $\triangle ABD \cong \triangle ACB$? Why?

Then find $m(\angle D)$, $m(\angle CAB)$.



ننتهي الأستاذة

$$180 - (110 + 30)$$

$$= 180 - 140$$

$$= 40^\circ$$

هذا الاختبار في ورقتين

Answer the following questions

Allows the use of a calculator

1st question: Choose the correct answer from those given:

- 1) The measure of the supplementary of the angle of measure $30^\circ = \dots^\circ$.
{ 30 , 60 , 120 , 150 }
- 2) The image of the point $A(-4, 3)$ by transformation $(-1, -4)$ is
{ $(-5, -7)$, $(-5, -1)$, $(-7, 3)$, $(-3, -1)$ }
- 3) If two lines are perpendicular to a third line, then they are
{ Perpendicular , intersecting , parallel , congruent }
- 4) If the ratio between the measure of two supplementary angles is 7:11 then the measure of the smaller =
{ 35 , 55 , 70 , 110 }
- 5) The length of the diameter of a circle = 8 cm. then its area = π
{ 4 , 8 , 16 , 64 }
- 6) If $\triangle ABC \equiv \triangle XYZ$ then
{ $AX = YZ$, $BC = XZ$, $XY = CA$, $ZY = CB$ }

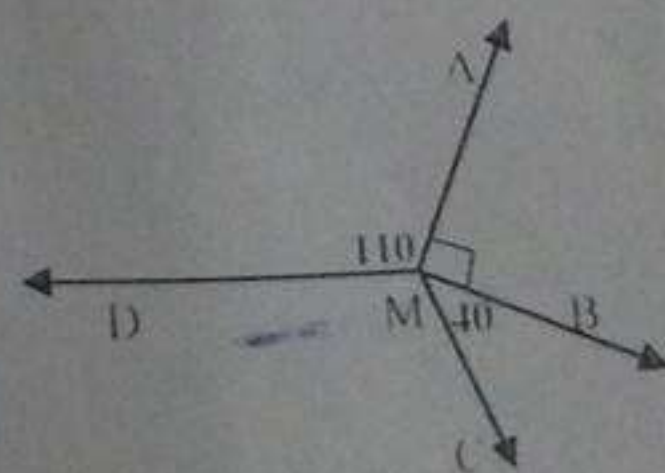
2nd question: Complete the following :

- 1) If a straight line intersects two parallel lines then each two corresponding angles are
- 2) Two triangles are congruent if two sides and in one are congruent to their corresponding parts in the other.
- 3) If $m(\angle A) = 110^\circ$ then $m(\text{reflex } \angle A) = \dots^\circ$
- 4) If the length of a side in a cube = 6 cm. then its total surface area = cm²
- 5) If $\triangle ABC \equiv \triangle XYZ$, $m(\angle A) + m(\angle B) = 140^\circ$, then $m(\angle Z) = \dots^\circ$

3rd question: a) In the opposite figure:

$$m(\angle AMB) = 110^\circ, m(\angle AMD) = 90^\circ, m(\angle CMB) = 40^\circ$$

Find $m(\angle CMD)$ by steps.



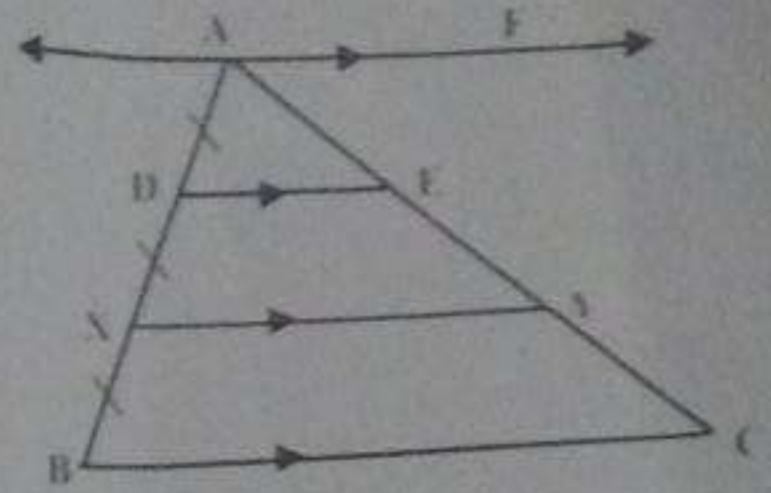
b) Using the geometric instruments draw angle ABC of measure 120° and bisect $\angle ABC$ then find by measuring $m \angle ABD$ (don't remove the arcs)

بقية الاسئلة في الورقة
الثانية

4th question:

a) In the opposite figure $AF \parallel DE \parallel XY \parallel BC$,
 $AD = DX = XB$, $AC = 9\text{cm}$.

Find the length of AY giving the reason.



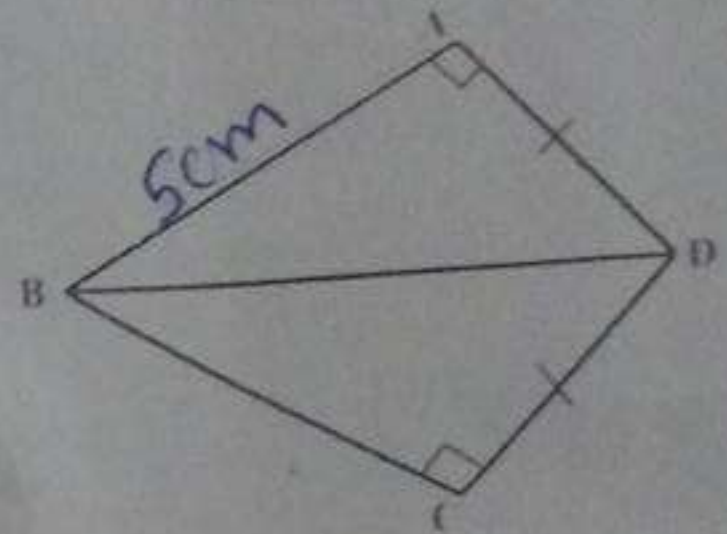
b) In the opposite figure:

$CD = AD$, $AB = 5\text{cm}$,

$m(\angle BAD) = m(\angle BCD) = 90^\circ$

1) Deduce that $\triangle ABD \cong \triangle CBD$

2) Find the length of $\overline{CB}$

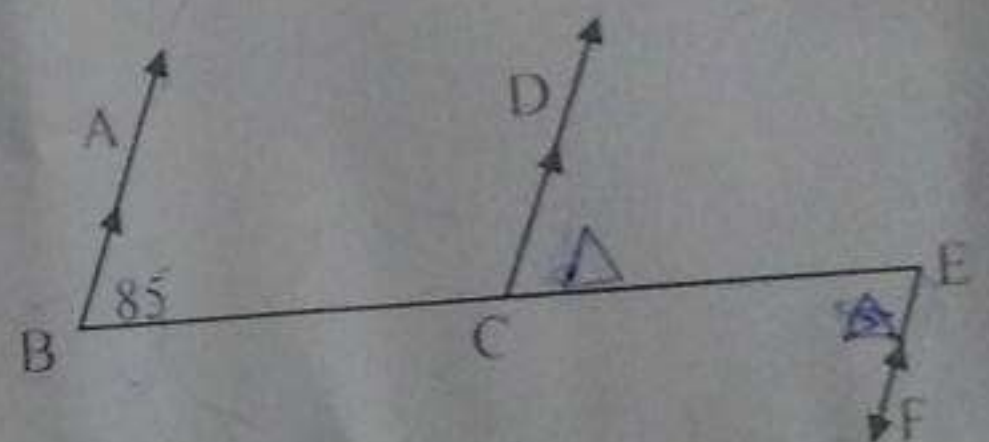


5th question:

a) In the opposite figure:

$BA \parallel CD$, $CD \parallel EF$, $m(\angle ABC) = 85^\circ$

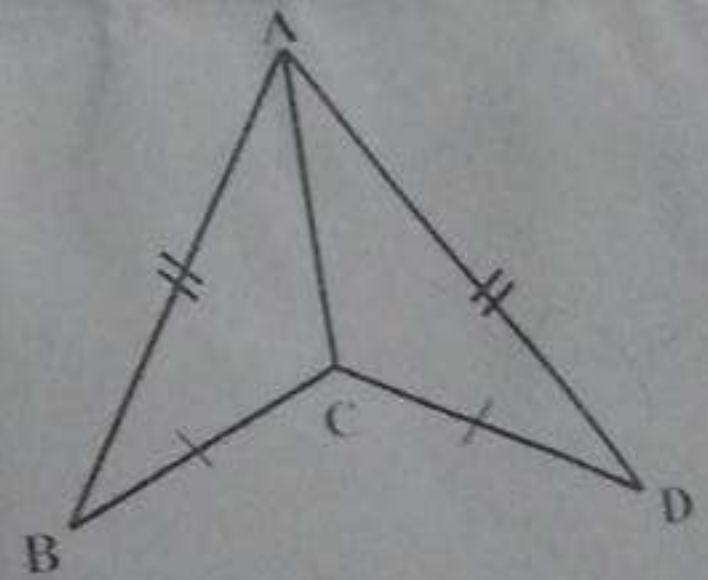
Find $m(\angle CEF)$



b) In the opposite figure:

$AB = AD$, $BC = DC$

Deduce that AC bisects $\angle BAD$



انتهت الاسئلة

Final exam of geometry 2017/2018
First term
(Answer all the following questions)

1) Choose the correct answer :

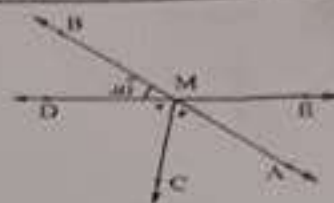
- 1) The acute angle supplements angle .
a) acute b) obtuse c) right d) reflex
- 2) If two adjacent angles are supplementary , then their outer sides are
a) parallel b) perpendicular c) congruent d) on the same straight line
- 3) If $\overline{AB} \equiv \overline{XY}$, then $AB - XY = \dots\dots\dots$.
a) 0 b) 1 c) -1 d) 2
- 4) Which of the following sentences is wrong for all rectangles?
a) Opposite sides are congruent b) Opposite sides are parallel
c) All angles are right d) The diagonals are perpendicular
- 5) The axis of symmetry of a line segment is the straight line
a) perpendicular to it from its midpoint b) perpendicular to it c) bisect it d) parallel to it
- 6) The best unit to measure the area of a room is
a) mm^2 b) cm^2 c) m^2 d) km^2

2) Complete each of the following :

- 1) The sum of measures of the accumulative angles at a point is
360
- 2) The two straight lines parallel to a third straight line are
parallel
- 3) Two triangles are congruent if two sides and the of one triangle are
included angles congruent to the corresponding parts of the other triangle .
- 4) If the ratio between measures of two complementary angles 4 : 5 , then the measure of
80 the smaller angle is
80
- 5) If the polygon $ABCD \equiv$ the polygon $LMNO$, then $AC = \dots\dots\dots$.
LN

3) a) In the opposite figure :

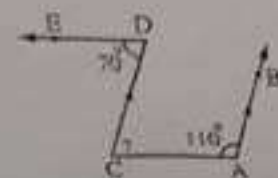
$\overleftrightarrow{AB} \cap \overleftrightarrow{DE} = \{M\}$, $m(\angle DMB) = 40^\circ$
 $\overrightarrow{MC}$ bisects $(\angle DMA)$ Find with reason :
 $m(\angle EMA)$, $m(\angle DMC)$.



b) In the opposite figure :

$\overrightarrow{AB} \parallel \overrightarrow{CD}$, $m(\angle BAC) = 110^\circ$
 $m(\angle EDC) = 70^\circ$.

1. Find : $m(\angle ACD)$.
2. Is $\overrightarrow{AC} \parallel \overrightarrow{DE}$? Why ?



4) a) By using the geometrical tools , draw $(\angle ABC)$ of measure 100° , then bisect it .

(Don't remove the arcs)

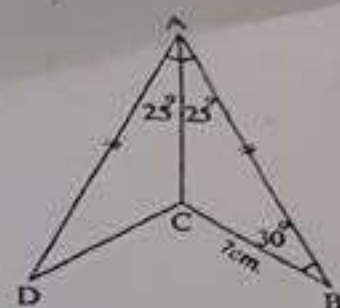
b) In the opposite figure :

$m(\angle B) = 30^\circ$, $AB = AD$, $BC = 7\text{cm}$

$m(\angle BAC) = m(\angle DAC) = 25^\circ$

Give reasons of two congruent triangles ABC , ADC

Then , find $m(\angle D)$ and the length of $\overline{DC}$.



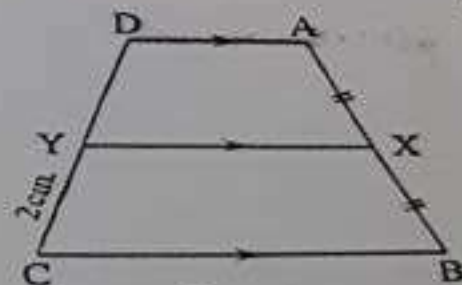
30° 7cm

5) a) In the opposite figure :

$\overline{AD} \parallel \overline{XY} \parallel \overline{CB}$,

$AX = XB$, $CY = 2\text{cm}$

Find with reason the length of $\overline{CD}$



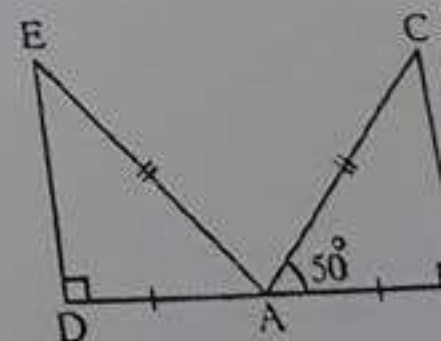
b) In the opposite figure :

$m(\angle B) = m(\angle D) = 90^\circ$

$EA = CA$, $AD = AB$,

$m(\angle BAC) = 50^\circ$

Deduce : $m(\angle EAD)$



50°

Finished

With our best wishes

1) Choose the correct answer :

1) The acute angle supplements angle .

- a) acute b) obtuse c) right d) reflex

2) If two adjacent angles are supplementary, then their outer sides are

- a) parallel b) perpendicular c) congruent d) on the same straight line

3) If $\overline{AB} \equiv \overline{XY}$, then $AB - XY =$

- a) 0 b) 1 c) -1 d) 2

4) Which of the following sentences is wrong for all rectangles?

- a) Opposite sides are congruent b) Opposite sides are parallel
c) All angles are right d) The diagonals are perpendicular

5) The axis of symmetry of a line segment is the straight line

- a) perpendicular to it from its midpoint b) perpendicular to it c) bisect it d) parallel to it

6) The best unit to measure the area of a room is

- a) mm^2 b) cm^2 c) m^2 d) km^2

2) Complete each of the following :

1) The sum of measures of the accumulative angles at a point is

2) The two straight lines parallel to a third straight line are

3) Two triangles are congruent if two sides and the of one triangle are congruent to the corresponding parts of the other triangle .

4) If the ratio between measures of two complementary angles 4 : 5 , then the measure of the smaller angle is:

5) If the polygon $\triangle ABCD \equiv$ the polygon $\triangle LMNO$, then $AC =$

3) a) In the opposite figure :

$\overline{AB} \cap \overline{DE} = \{M\}$, $m(\angle DMB) = 40^\circ$

$\overline{MC}$ bisects $(\angle DMA)$ Find with reason :

$m(\angle EMA)$, $m(\angle DMC)$.



b) In the opposite figure :

$\overline{AB} \parallel \overline{CD}$, $m(\angle BAC) = 110^\circ$

$m(\angle EDC) = 70^\circ$.

1. Find : $m(\angle ACD)$.

2. Is $\overline{AC} \parallel \overline{DE}$? Why?



4) a) By using the geometrical tools , draw $(\angle ABC)$ of measure 100° , then bisect it .

(Don't remove the arcs)

b) In the opposite figure :

$m(\angle B) = 30^\circ$, $AB = AD$, $BC = 7\text{cm}$

$m(\angle BAC) = m(\angle DAC) = 25^\circ$

Give reasons of two congruent triangles $\triangle ABC$, $\triangle ADC$

Then , find $m(\angle D)$ and the length of $\overline{DC}$.



5) a) In the opposite figure :

$\overline{AD} \parallel \overline{XY} \parallel \overline{CB}$,

$\overline{AX} = \overline{XB}$, $\overline{CY} = 2\text{cm}$

Find with reason the length of $\overline{CD}$



b) In the opposite figure :

$m(\angle B) = m(\angle D) = 90^\circ$

$EA = CA$, $AD = AB$,

$m(\angle BAC) = 50^\circ$

Deduce : $m(\angle EAD)$

Find :

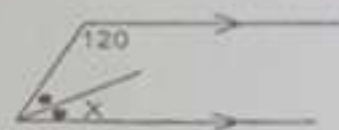


Finished

With our best wishes

Choose the correct answer :

- 1) The measure of the supplement of the angle whose measure 40° is (50 , 140 , 90 , 180)
- 2) If two straight lines parallel to a third, then the two straight lines are
(parallel , perpendicular , congruent , intersecting)
- 3) In the opposite figure $m(\hat{x}) = \dots\dots^\circ$ (60 , 30 , 90 , 45)
- 4) $\overline{AB} \equiv \overline{CD}$, $AB = 5 \text{ cm.}$, then $AB - CD = \dots\dots$ (0 , 1 , 5 , 10)
- 5) $\triangle ABC$ is right angled triangle at B , $AB = 3 \text{ cm.}$ And $BC = 4 \text{ cm.}$, then its area = cm^2 (12 , 6 , 24 , 14)
- 6) The perimeter of the rhombus where its side length 10 cm. = cm. (100 , 50 , 20 , 40)



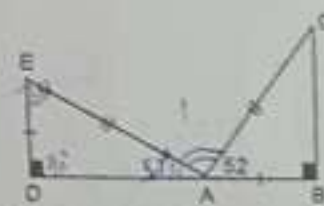
Complete each of the following

- 1) The sum of measures of accumulative angles at a point = $^\circ$
- 2) Two triangles are congruent if eachare congruent with corresponding parts of the other
- 3) The complement of an angle of measure 25° is an angle of measure $^\circ$
- 4) If $\triangle ABC \equiv \triangle XYZ$, then $m(\hat{CBA}) = \dots\dots\dots$
- 5) $ABCD$ is parallelogram , $m(\hat{A}) = 55^\circ$, then $m(\hat{B}) = \dots\dots\dots^\circ$

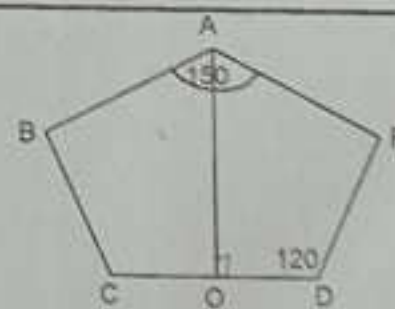
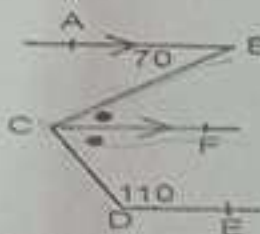
a) In the opposite figure: $\overline{AB} \cap \overline{CD} = \{M\}$, $\overline{ME}$ bisects $(\hat{BMD})$ and $m(\hat{AMD}) = 108^\circ$.
Find : $m(\hat{BMD})$, $m(\hat{EMD})$, $m(\hat{AMC})$ and $m(\hat{BMC})$



b) In the opposite figure:
mention the case and the conditions of congruence between $\triangle ABC$ and $\triangle EAD$. then Find : $m(\hat{EAD})$ and $m(\hat{EAC})$

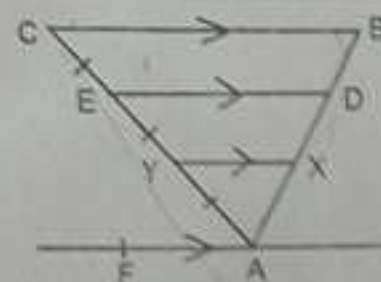


a) In the opposite figure: The figure $ABCO \equiv$ the figure $AFDO$, $O \in \overline{CD}$ and $CD = 8 \text{ cm.}$, $m(\hat{FAB}) = 150^\circ$ and $m(\hat{FDC}) = 120^\circ$
Find : $m(\hat{BCO})$, $m(\hat{FAO})$, $m(\hat{AOD})$
and the length of $\overline{CO}$



b) In the opposite figure: If $\overline{AB} \parallel \overline{CF}$, $m(\hat{ABC}) = 70^\circ$, $m(\hat{CDE}) = 110^\circ$.
Find: $m(\hat{BCF})$. and why $\overline{CF} \parallel \overline{DE}$?

a) In the opposite figure: $\overline{AF} \parallel \overline{XY} \parallel \overline{DE} \parallel \overline{BC}$,
 $AY = YE = EC$, $AY = 4 \text{ cm.}$, $AX = 3 \text{ cm}$ and the
perimeter of $\triangle ABC = 30 \text{ cm.}$ Find the length of $\overline{BC}$



b) Draw $\triangle ABC$ in which $AB = 3 \text{ cm}$, $BC = 5 \text{ cm}$, and $AC = 7 \text{ cm}$,
then draw $\overline{BD}$ bisect $(\hat{ABC})$ to intersect $\overline{AC}$ at D .
Find by measuring $(\hat{ABD})$. (don't remove the arcs)