

Algebra



Alg.

Exercise (1)

[1] Complete :

- 1) Rational number is
- 2) The set of integer is
- 3) If $\frac{a}{b}$ is rational then $b \neq$
- 4) The number $\frac{4}{x-3}$ is rational if $x \neq$
- 5) The number $\frac{x+5}{x-5}$ is rational if $x \neq$
- 6) The rational number $\frac{5-x}{x-4} = 0$ if $x =$
- 7) The rational number $\frac{a}{b}$ is an integer if
- 8) Express of 0.57 as rational number is simplest form
- 9) The rational number $\frac{x}{-4}$ is negative if x zero .
- 10) If $\frac{a}{b}$ is rational number and $ab =$ zero then $a =$
- 11) Write the rational number $\frac{7}{11}$ as decimals

Exercise (2)

[1] Represent each of the following on number line :

a) $\frac{-7}{4}$

b) $1\frac{1}{5}$

c) $-\frac{1}{2}$

[2] Write the correct sign (< , > , =) :

a) Every positive rational numberzero .

b) Every negative rational numberzero .

c) $|\frac{-13}{2}|$ $6\frac{1}{2}$

d) $\frac{-9}{3}$ -3

e) $|\frac{15}{2}|$ $7\frac{1}{2}$

f) 0.5 0.5•

g) $|\frac{-3}{2}|$ $\frac{1}{2}$

[3] Write two rational number lying between :

1) $\frac{1}{3}$ and $\frac{4}{5}$

2) $\frac{-1}{2}$ and 1

3) 0.3 and $\frac{4}{5}$

[4] Complete :

1) Between each two successive integers there is

2) The opposite rational number $\frac{1}{3}$ on number line

3) The number of integers lying between $\frac{5}{7}$ and $\frac{8}{11}$ are

[5] Write the rational number that equal $\frac{3}{4}$ and the sum of terms 28 .

Exercise (3)

[1] Complete :

- 1) The additive identity element in φ is
- 2) The additive inverse of number $\frac{3}{5}$ is
- 3) The additive inverse of $(\frac{2}{3})^{\text{zero}}$ is
- 4) The additive inverse of $|\frac{-4}{5}|$ is
- 5) The additive inverse of number zero
- 6) The additive inverse of -0.5 is
- 7) The remainder of subtracting $\frac{1}{5}$ from $\frac{6}{5} =$
- 8) The remainder of subtracting $\frac{1}{3}$ from $\frac{-4}{3}$
- 9) The remainder of subtracting $\frac{-3}{2}$ from zero
- 10) $A + \frac{7}{8} = \text{zero}$ then $A =$
- 11) If $(A + \frac{1}{4})$ is additive inverse of number $\frac{3}{4}$ then $A =$
- 12) If $X = 2$, $Y = 3$ and $Z = 4$ then $\frac{X}{Y} - \frac{Z}{X} =$

[2] Using the number line to find result :

a) $-\frac{1}{3} + \frac{7}{3} =$

b) $\frac{5}{7} + \frac{1}{7} =$

[3] Using the addition properties in :

a) $\frac{5}{8} + \left(\frac{-3}{4}\right) + \frac{3}{8} + \frac{3}{4}$

b) $7\frac{1}{4} + (-11\frac{1}{4})$

c) $\frac{2}{3} + \frac{4}{5} + \frac{3}{4}$

[4] If $X = \frac{5}{6}$, $Y = \frac{-1}{3}$, $Z = \frac{1}{2}$ find :

a) $X + Z$

b) $X - Y$

c) $(X + Z)$

d) $(X + Y) - Z$

Exercise (4)

[1] Complete :

- 1) The multiplicative identity of the rational no. is
- 2) The multiplicative inverse of no. $\frac{3}{7}$ is
- 3) The multiplicative inverse $(\frac{-3}{5})^{\text{zero}}$ is
- 4) The rational no. $\frac{a-1}{5}$ has multiplicative inverse if $a = \dots\dots\dots$
- 5) The rational no. has multiplicative inverse is
- 6) $\frac{2}{3} \times (\frac{-4}{5}) = \frac{-4}{5} \times \dots\dots\dots$
- 7) If $\frac{a}{b} = 80$ then $\frac{a}{2b} = \dots\dots\dots$
- 8) $\frac{X}{Y} = \frac{2}{3}$ then $\frac{3X}{2Y} = \dots\dots\dots$
- 9) $\frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} \times \dots\dots\dots \times \frac{50}{51} = \dots\dots\dots$
- 10) $\frac{-7}{3} \times (\frac{-3}{7}) = n$, then $n = \dots\dots\dots$
- 11) $\frac{-5}{3} \times \dots\dots\dots = 0$
- 12) $\dots\dots\dots \times \frac{19}{3} = 1$

[2] Using properties of following :

- 1) $\frac{6}{37} \times 7 + \frac{6}{37} \times 5 + \frac{6}{37} \times (-11)$

$$2) \frac{-3}{7} \times 8 + 5 \times \left(\frac{-3}{7}\right) + \left(\frac{-3}{7}\right) \times 9$$

$$3) \frac{27}{11} \times \frac{1}{4} - \frac{27}{11} \times \frac{1}{4} + \frac{27}{11} \times 9$$

[3] If $X = \frac{3}{2}$, $Y = \frac{-1}{4}$ and $Z = -2$

a) $\frac{1}{XYZ}$

b) $\frac{X}{Y} - \frac{Z}{Y}$

[4] Find the middle rational no. lying between :

a) $\frac{3}{8}$, $\frac{5}{8}$

b) $\frac{-1}{2}$, $\frac{-3}{4}$

c) zero , $\frac{2}{5}$

[5] Find the rational number lying at :

a) One fourth of way between $\frac{5}{7}$, $\frac{-3}{7}$

b) One tenth of way between $\frac{-1}{2}$, $\frac{-3}{5}$

Unit Two

[1] Complete :

- 1) The degree of term $3 X^2 Y$ isits coefficient is
- 2) The coefficient of algebraic term $\frac{2}{3} X^4 Y Z^3$ isand its degree
- 3) The degree of an absolute term in algebraic expression
- 4) $-3a^5b$ number of termsname is, degree is
- 5) $5 X^3 - 7 X + 4$ number of termsname, degree is
- 6) The coefficient of the algebraic term X isand its degree is
- 7) If the degree of the algebraic term $5 X^n Y^2$ is 5 then $n =$
- 8) If the degree of algebraic term Y^{m+1} is the degree of a algebraic term $5 X^2 Y^4$ then
in =

Sheet (7)

[1] Find the result of each of following :

- 1) $3X + 2X$ 2) $-5a^2 + 3a^2$
- 3) $\frac{3X}{7} - \frac{X}{7}$ 4) $-2 X^2 Y + 3Y X^2$
- 5) Subtract Y^2 from $-3 Y^2$
- 6) What is increase of $3a^2 b$ than $a^2 b$ is ?
- 7) What is decrease of $-3ab$ than $2ab$?

8) Find the sum of :

- | | | |
|--|---|---|
| a) $3a - 4b + 6c$
$5a + 6b - 2c$
_____ | b) $3a - 7b - 5c + 2$
$-a + 4b + c - 5$
_____ | c) $5x + 2y - z + 2$
$7x + y - 3z + 3$
$-2x - 5y + 4z - 1$
_____ |
|--|---|---|

[2] Find the sum of following :

- 1) $3X - 2Y$, $X + 2Y - 2$
- 2) $2a^2b - 3ab^2 + b^3$, $-a^2b + b^3$
- 3) $3X - 4X^2 + X^3$, $2X^2 - 6X^2 - 6X + 5$, $7X + 4 - X^3$

[3] Reduce each of the following :

- 1) $5X - 3X^2 + 4 - 7X^2 - 6X - 1$
- 2) $6X^2Y - 4XY^2 + 2XY^2 - 5X^2Y + 2X^2Y^2$
- 3) $5X^2 - 2X + 8 - 7X - 3 + X^2$
- 4) $-a^2 - 5ab + 4b^2 - 2 - 3a^2 + 2ab - 2b^2 - 7$

Sheet (8)

[1] Simplify :

- 1) $4(X - 3) = \dots\dots\dots$
- 2) $a(a - 2) = \dots\dots\dots$
- 3) $-3k(2k^2 - 3k - 7) = \dots\dots\dots$
- 4) $-2c(7 - 3c) = \dots\dots\dots$
- 5) $2X^2Y(2X^2 - 3XY + Y^2) = \dots\dots\dots$
- 6) $Lm^2(L^2 - 3mL - 4m^2) = \dots\dots\dots$
- 7) $(3X + 4)(2X + 5) = \dots\dots\dots$
- 8) $(5X + 1)(3X + 2) = \dots\dots\dots$
- 9) $(2X + 5Y)(2X - 5Y) = \dots\dots\dots$
- 10) $(X - 4)(X + 4) = \dots\dots\dots$
- 11) $(2X + Y)^2 = \dots\dots\dots$
- 12) $(4X + 5Y)^2 = \dots\dots\dots$
- 13) $3(m - 5)(m + 2) = \dots\dots\dots$
- 14) $4(XY - 2)^2 = \dots\dots\dots$
- 15) $(2X^2 + 3)(X^2 - 5) - (3X^2 + 2)^2 = \dots\dots\dots$

[2] Find value of K :

- 1) $(2X + Y)^2 = 4 X^2 + K X Y + Y^2$ then $K = \dots\dots\dots$
- 2) If $(X - Y) (2X + Y) = 2 X^2 + K X Y - Y^2$ then $K \dots\dots\dots$
- 3) $(X - 3) (X + 3) = X^2 + K$ then $K = \dots\dots\dots$

[3] Find numerical value of following :

If $X = 1$, $Y = -2$

- 1) $(2Y + 7) (3Y + 4)$
- 2) $(X + 4) (3X + 2)$
- 3) $(3X + Y) (X + 3Y)$

Sheet (8)

[1] Find the quotient :

a) $\frac{18 a^2}{3 a}$

b) $\frac{18 m^3 + 36 m^2}{-2 m^2}$

c) $\frac{48 X^3 - 80 mX^2}{8 X^2}$

d) $\frac{32 X^5 - 32 X^2 + 36 X^7}{4 X^2}$

e) $2 X^2 + 13 X + 15$ by $X + 5$

f) $X^3 - 27$ by $X - 3$

g) $3 X^3 - 4X + 1$ by $X - 1$

h) If area of rectangle is $(2X^2 + 7 X - 15)$ and length is $(X + 5)$ find perimeter if $X = 3$ cm.

Sheet (9)

Factorize by identifying the H.C.F :

- a) $3 X^2 + 6 X$
- b) $35 a + 10 a^2$
- c) $3 X^2 + 12 X - 6$
- d) $8 Y^2 - 4 X^2$
- e) $3X (a + b) + 7 (a + b)$
- f) $3 X^3 (X - 4) + 4 X (X - 4) + 3 (X - 4)$
- g) $4 m^5 (2X + 5 Y) - 3 m (2 X + 5 Y) - 6 (2 X + 5 Y)$
- h) $7 \times 123 + 7 \times 35 - 7 \times 18$
- i) $6 \times 15^2 + 18 \times 15 - 24 \times 15$

Sheet (10)

- 1) The mode of set of values is
- 2) The mode of values of 2 , 3 , 8 , 2 , 9 is
- 3) The mode of values 3 , 6 , 13 , 19 , 19 , 12 is
- 4) If the mode of values $\frac{1}{3}$, $\frac{1}{7}$, $\frac{1}{5}$, $\frac{1}{7}$ is $\frac{1}{X}$ then X =
- 5) If the mode of values 12 , 17 , X - 1 , 7 , 12 is 7 then X =
- 6) If mode of values of a + 2 , a + 1 , a + 3 , a + 2 equal 12 then a =
- 7) The median of values 4 , 8 , 3 is
- 8) The median of values 6 , 5 , 9 , 8 is
- 9) The median of values 8 , 17 , 4 , 6 , 10 is
- 10) The median of values 6 , 2 , 5 , 4 is
- 11) The mean of values 5 , 12 , 6 , 17 is
- 12) The mean of values 2 , 5 , 8 , 9 , 14 , 28 is
- 13) The mean of values 2 - a , 4 , 1 , 5 , 3 + a is
- 14) The mean of values X , X - Y , Y - X is

[2] The following table shows the number of hours that . Ali and Ahmed study daily in a week .

Ali	7	5	8	9	8	6	4
Ahmed	8	9	7	9	9	5	5

- a) find mean of studying hour for each Ali , Ahmed
- b) Find median of each of them .
- c) Find mode of hours of each of them .

Model exam (Alg.)

[1] Complete :

- a) $\frac{3-x}{x+2} = \text{zero}$ if $x = \dots\dots\dots$
- b) The degree of the algebraic term $6x^2y^3$ is.....
- c) The additive inverse of the number $\left| \frac{-3}{5} \right|$ is
- d) $-8X$ exceeds $5X$ by
- e) $(12x^3 \div 4x) \times \dots\dots\dots = 6x^4$.
-

[2] Choose the correct answer :

- 1) $\frac{-2}{5} \times n = 1$ Then $n = \dots\dots\dots$
- a) $\frac{5}{2}$ b) $\frac{-5}{2}$ c) $\frac{2}{5}$ d) $\frac{-2}{5}$
- 2) The rational number lies in half way between $\frac{1}{2}$ and $\frac{7}{8}$
- a) $\frac{11}{16}$ b) $\frac{5}{8}$ c) $\frac{3}{4}$ d) $\frac{1}{2}$
- 3) $\frac{3}{x+2}$ is a rational number then $x \neq \dots\dots\dots$
- a) zero b) -3 c) 2 d) -2
- 4) Express $\frac{4}{11}$ as a decimal
- a) 0.36 b) 0.363 c) 0.36 d) 0.036
- 5) If $\frac{x}{y} = \frac{2}{5}$ Then : $5x - 2y = \dots\dots\dots$
- a) $\frac{2}{5}$ b) $\frac{5}{2}$ c) 1 d) zero
-

[3] a) Add : $3x - 5y - 6$ and $3y + 2x + 5$

- b) Use distributive property to find : $\frac{5}{9} \times 11 + \frac{5}{9} \times 8 - \frac{5}{9}$
- c) The length of a rectangle is $5x$ cm and its width is $3x$ cm . calculate its area .
-

[4] a) Subtract : $6x^2 + 2x - 5$ from $2x^2 - 3x + 4$

- b) If $a = \frac{3}{4}$, $b = -\frac{1}{2}$ find the value of $(a + b) \div (a - b)$
- c) Find three rational numbers between $\frac{1}{2}$, $\frac{1}{3}$

Geometry

Geom.
Sheet (1)

[1] Mention the type of angle whose measure is as following :

- 1) 57° 2) 117° 3) 90°
4) 180° 3) $43 \frac{1}{2}$ 6) $89^\circ 59' 60''$ 7) $179^\circ 62'$

[2] Complete :

- 1) The angle is
- 2) The measure of straight angle
- 3) The measure of zero angle
- 4) The measure of right angle
- 5) The measure of acute angle is less thanand more than
- 6) The measure of obtuse angle is less than more than
- 7) The two complement angles are two angles whose sum of their measure is
- 8) The two supplement angles are the two angles whose sum of their measure is
- 9) The two adjacent angles formed by straight line and ray with same stating point are
.....
- 10) If the two outer sides of two adjacent angles are perpendicular , then these two adjacent
angles are
- 11) If the two outer sides of two adjacent angles are on the same straight line , then these
adjacent angles are
- 12) The measure of angle which complement with 48° is
- 13) The measure of angle which complement with 90° is
- 14) The measure of angle which complement with $60^\circ \frac{1}{4}$ is
- 15) Measure of angle which supplementary with 90° isangle .
- 16) Measure of angle which supplementary with 180° isangle .

17) Measure of angle which supplementary with 48° .

18) If two straight lines intersect then the measure of each two vertically opposite angle are

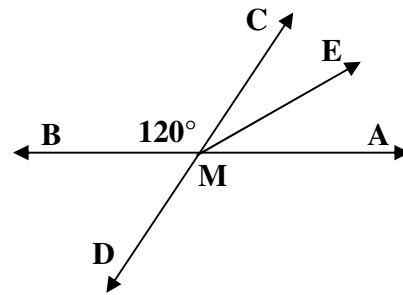
19) The sum of measure of accumulative angles at point

20) Angle bisector is

21) If $m(\angle A) = 80$ then (reflex $\angle A$) = $^\circ$

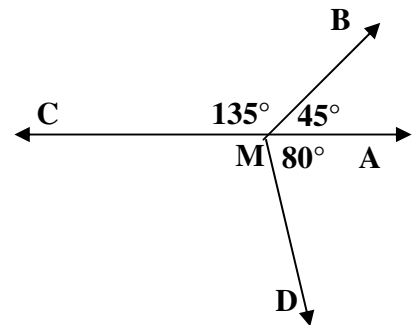
22) In opposite figure :

- a) M is the point intersection of \overleftrightarrow{AB} and \overleftrightarrow{CD} , \overrightarrow{ME} bisects $\angle AMC$ and $m(\angle BMC) = 120^\circ$. Find :
 $m(\angle AMC)$, $m(\angle AMD)$, $m(\angle AME)$

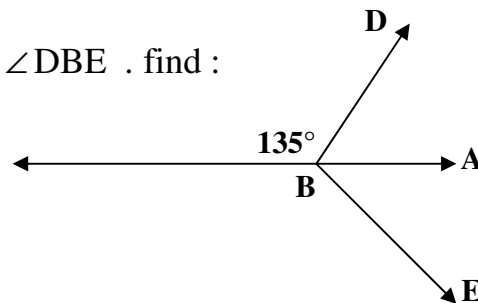


b) In the figure :

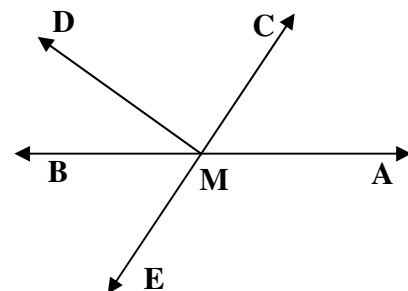
- 1) $m(\angle CMD) = \dots\dots\dots^\circ$
 2)andlie on the same straight line .



- c) If $B \in \overleftrightarrow{AC}$, $m(\angle DBC) = 135^\circ$ and \overrightarrow{BA} bisects $\angle DBE$. find :
 $m(\angle ABD)$, $m(\angle DBE)$, $m(\angle CBE)$



- d) If $\overleftrightarrow{AB} \cap \overleftrightarrow{CE} = \{M\}$, $\overrightarrow{MD} \perp \overrightarrow{CE}$ and \overrightarrow{MB} bisects $\angle DME$. Find :
 $m(\angle BME)$, $m(\angle DME)$, $m(\angle AMC)$, $m(\angle AME)$



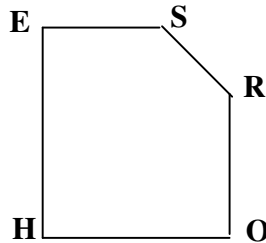
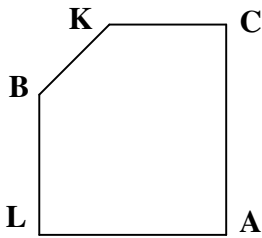
Sheet (2)

[1] Complete :

- 1) The two line segment are congruent if
- 2) The two angles are congruent if
- 3) The two square are congruent if
- 4) The two rectangle are congruent if

[2] In the opposite figure :

The two pentagons shown are congruent



Complete :

- 1) B correspond to
- 2) The polygon BLACK is congruent the polygon
- 3) $KB = \dots\dots\dots$ cm.
- 4) $m(\angle E) = m(\angle \dots\dots\dots)$
- 5) $CA = \dots\dots\dots$ cm
- 6) $m(\angle A) = m(\dots\dots)$

[3] In the opposite figure :

If $C \in BD$, $m(\angle AFC) = 110^\circ$, $BC = 5$ cm and polygon $ABCF \cong$ the polygon $EDCF$
 $ED = 8$ cm , $EF = 4$ cm .

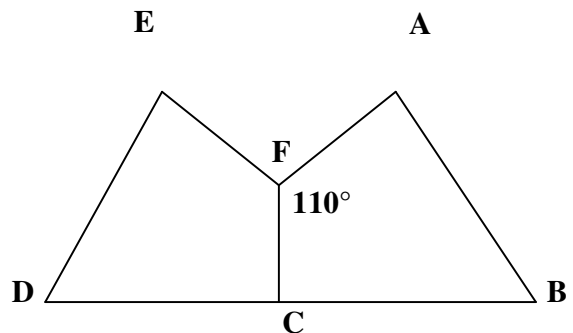
Complete :

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

$DC = \dots\dots\dots$ cm

$AB = \dots\dots\dots$

$AF = \dots\dots\dots$



Sheet (3)

- 1) Draw the line segment whose length 7 cm. then divid it into two equal parts in length using the compass and the an scaled ruler .

- 2) Draw $\angle ABC$ where $m(\angle B) = 80^\circ$ using the ruler and compasses bisect $\angle B$ by \overrightarrow{BD}

- 3) Use the ruler and compasses to draw the equilateral ΔABC of side 6 cm . Draw $\overline{AD} \perp \overrightarrow{BC}$ where $\overrightarrow{AD} \cap \overline{BC} = \{D\}$. what the length of \overline{AD} .

- 4) Draw $\angle XYZ$ whose measure 70° use ruler and draw congruent equal to it .

- 5) Using the protractor , draw $\angle ABC$ with measure 70° and on the other side of BA , draw using ruler and compasses draw $\overrightarrow{AE} \parallel \overrightarrow{BC}$.

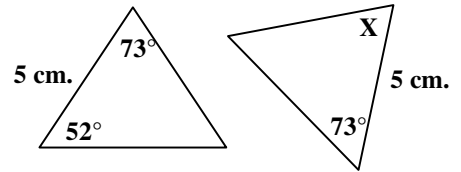
Sheet (4)

[1] Complete the following :

- 1) Any two triangles are congruent if two sides
- 2) Any two triangles are congruent if two angles andin one of the triangles are congruent to their corresponding element in the other .
- 3) Any two triangles are congruent if eachis congruent to its corresponding side in the other triangle .
- 4) Any two right – angled triangles are congruent if
- 5) The diagonal of the rectangle divides its surface into twotriangles .
- 6) If $\triangle ABC \equiv \triangle XYZ$, then $AB = \dots\dots\dots$ and $m(\angle Z) = m(\angle \dots\dots\dots)$

[2] In the opposite figure :

These triangles are congruent , then $X = \dots\dots\dots^\circ$



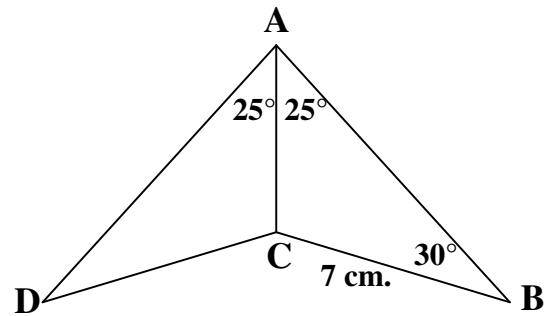
[3] In the opposite figure :

If $AB = AD$, $BC = 7 \text{ cm.}$, $m(\angle BAC) = m(\angle DAC) = 25^\circ$ and $m(\angle B) = 30^\circ$

Complete the following :

If $\triangle ACB \equiv \triangle ACD$

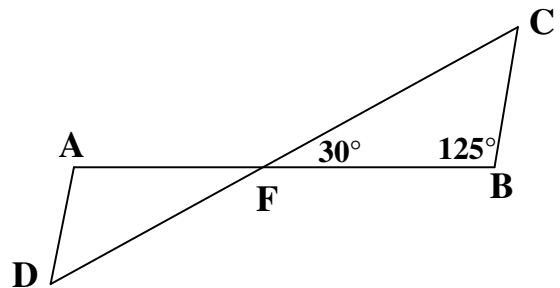
- 1) $m(\angle D) = \dots\dots\dots^\circ$
- 2) $CD = \dots\dots\dots \text{cm.}$
- 3) $m(\angle ACD) = \dots\dots\dots^\circ$



[4] In the opposite = {F} , $FA = FB$, $CF = FD$,

$m(\angle CFB) = 30^\circ$ and $m(\angle B) = 125^\circ$,

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

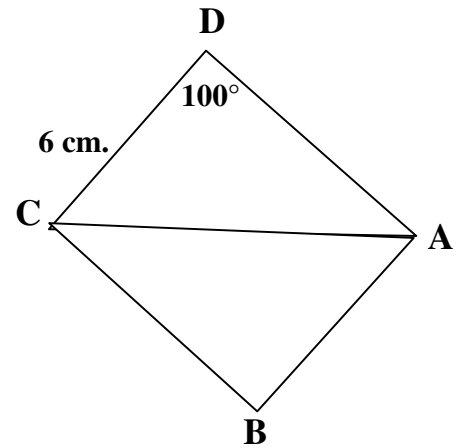


[5] In the opposite figure :

If \overleftrightarrow{AC} bisects $\angle DCB$, $\angle DAB$, $m(\angle D) = 100^\circ$

And $DC = 6$ cm. complete the following :

- 1) $\triangle ADC \cong \triangle \dots\dots\dots$
- 2) $m(\angle B) = \dots\dots\dots$
- 3) $BC = \dots\dots\dots$ cm .

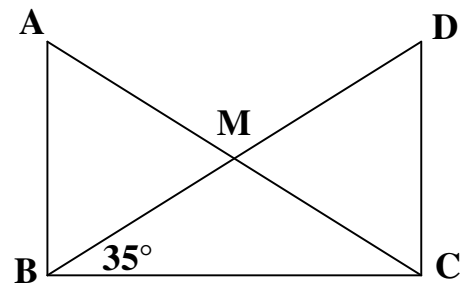


[6] In the opposite figure :

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

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

Then $m(\angle BMC) = \dots\dots\dots$



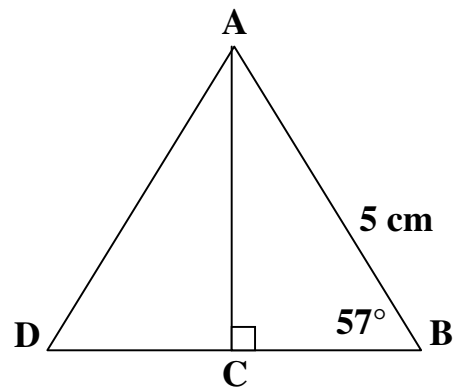
[7] In the opposite figure :

C is the midpoint of \overline{BD} , $\overline{AC} \perp \overline{BD}$,

$AB = 5$ cm. , and $m(\angle B) = 57^\circ$

Find :

- 1) The length of \overline{AD}
- 2) $m(\angle DAC)$

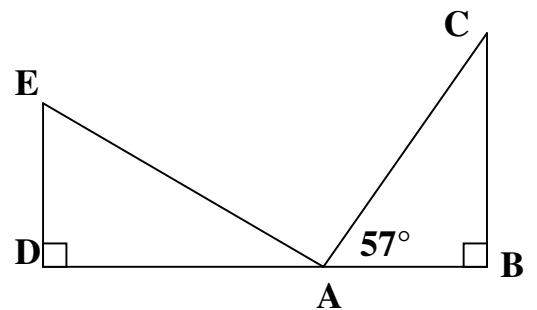


[8] In the opposite figure :

$BC = AD$, $AC = AE$

And $m(\angle CAB) = 57^\circ$

Find the measures of the unknown angles in $\triangle ADE$



Sheet (5)

[1] Complete the following :

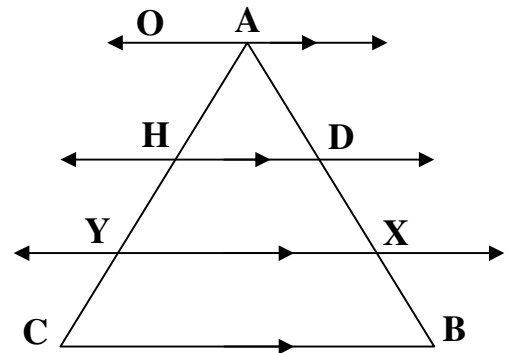
- 1) If two straight lines are parallel to a third straight line , then they are
- 2) If a straight line cuts two parallel straight lines , then each two corresponding angles are
- 3) If a straight line cuts two parallel straight lines , then each two interior angles in the same side of the transversal are

[2] In the opposite figure :

$$\overline{AO} \parallel \overline{HD} \parallel \overline{YX} \parallel \overline{CB}$$

, $AD = DX = XB$ and $AC = 18$ cm.

Find the length of AY



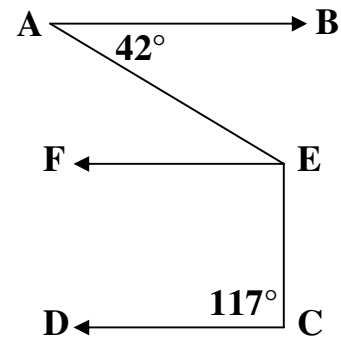
[3] In the opposite figure :

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

, $m(\angle A) = 42^\circ$ and $m(\angle C) = 117^\circ$

Determine :

$m(\angle AEC)$



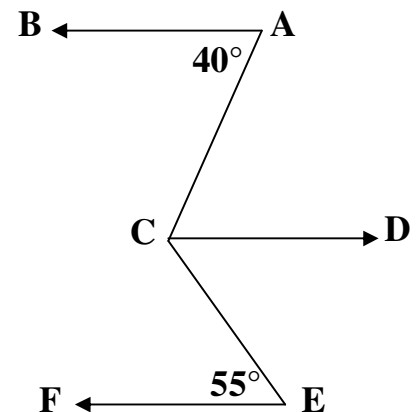
[4] In the opposite figure :

$m(\angle A) = 40^\circ$, $m(\angle E) = 55^\circ$

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

Find :

$M(\angle ACE)$

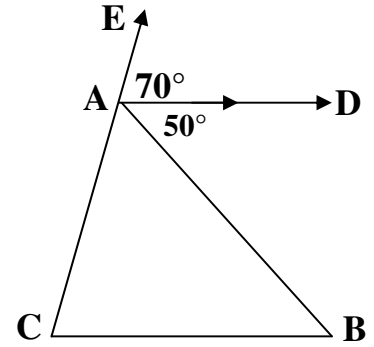


[5] In the opposite figure :

$\overrightarrow{AD} \parallel \overrightarrow{BC}$, $E \in \overrightarrow{CA}$,

$m(\angle DAE) = 70^\circ$ and $m(\angle DAB) = 50^\circ$

Find the measures of the triangle ABC



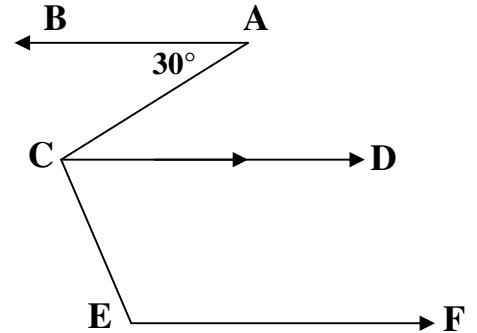
[6] In the opposite figure :

$\overrightarrow{AB} \parallel \overrightarrow{CD} \parallel \overrightarrow{EF}$, $m(\angle A) = 35^\circ$ and

\overrightarrow{CD} bisects $\angle ACE$

Find :

- 1) $m(\angle DCE)$
- 2) $m(\angle CEF)$

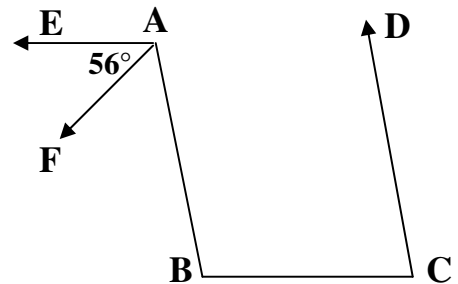


[7] In the opposite figure :

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

\overrightarrow{AF} bisects $\angle BAE$ and $m(\angle EAF) = 56^\circ$

Find : $m(\angle C)$



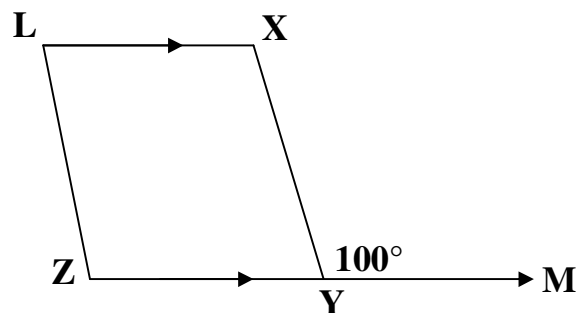
[8] In the opposite figure :

$\overrightarrow{XL} \parallel \overrightarrow{YZ}$, $\overrightarrow{XY} \parallel \overrightarrow{LZ}$ and $m(\angle XYM) = 100^\circ$

Where $M \in \overrightarrow{ZY}$

Find :

- 1) $m(\angle X)$
- 2) $m(\angle Z)$
- 3) $m(\angle L)$



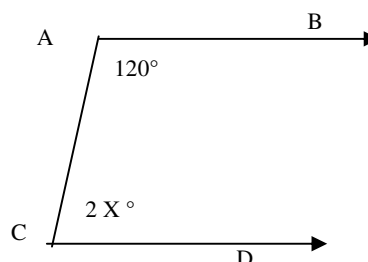
Model exam

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 $L_1 // L_2$ and $L_1 \perp L_3$ then
 a) $L_1 // L_3$ 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) $\not\subset$

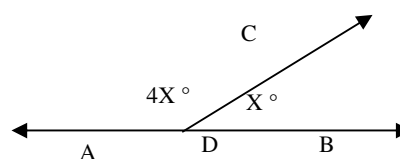
6) In the opposite figure :

- $\overrightarrow{A B} // \overrightarrow{C D}$ then $x = \dots\dots\dots$
- a) 120° b) 100° c) 60° d) 30°



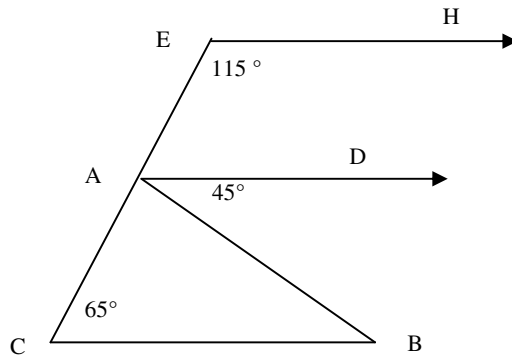
2- Complete :

- 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 $\Delta A B C \equiv \Delta X Y Z$ then $A C = \dots\dots\dots$
- d) If a st. line intersects one of two parallel st. lines then $^\circ$
- 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 $X = \dots\dots\dots^\circ$



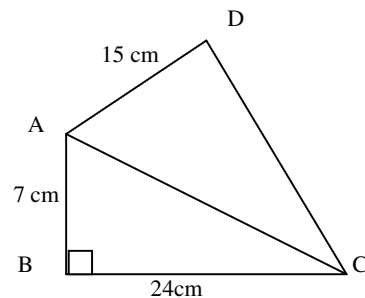
3- a) In the opposite figure :

$A \in \overline{CE}$, $\overrightarrow{EH} \parallel \overrightarrow{AD}$, $m(\angle E) = 115^\circ$,
 $m(\angle BAD) = 45^\circ$, $m(\angle C) = 65^\circ$
 (i) is $\overrightarrow{EH} \parallel \overline{CB}$? Why?
 (ii) Find : $m(\angle CAB)$



b) In the opposite figure:

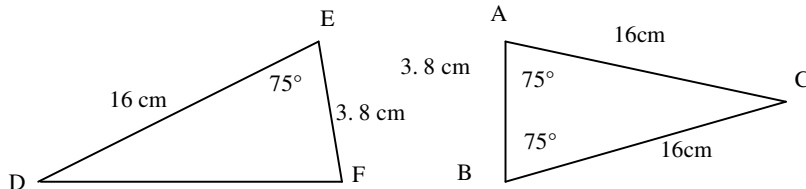
$m(\angle B) = 90^\circ$, $m(\angle D) = 90^\circ$
 $AB = 7 \text{ cm}$, $BC = 24 \text{ cm}$, $AD = 15 \text{ cm}$
 Find $(CD)^2$



4- a) Using the geometric instruments draw ΔABC 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 ΔABC

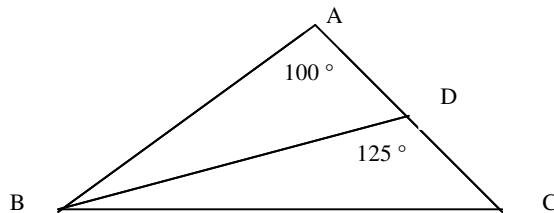
b) In the opposite figure :

Prove that : $\Delta ABC \cong \Delta EFD$
 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 $\Delta AMC \cong \Delta BMD$? Why?

