# ASSIGNMENT

**CLASS: VII (COMPLETED)**
**SUB: MATHEMATICS**

**Name of the Student: …… Mobile No: ……**

## MODEL - 1

1. $14 \div 7 \times 2 + 7 - 2$.

Sol: $2 \times 2 + 7 - 2$

$4 + 7 - 2 = 11 - 2 = 9$

2. $9 - 49 \div 7 + 6 - 3 =$ _____.

3. $4 + 5 \times 4 \div 2 - 2 =$ _____.

4. $(3 + 2)\ 6 \div 3 + 2 - 7 =$ _____.

5. $5 \times 7 - 2 + 2\ (5 + 2) \div 7 =$ _____.

6. $\frac{1}{2}\text{of } 8 - \frac{3}{5} + \frac{6}{7} \div \frac{3}{4} - \frac{5}{8} \text{ of } \frac{3}{10} + \frac{1}{3}$

7. $\frac{1}{2} - \left(\frac{1}{4} \times \frac{2}{5} + \frac{3}{7} \text{ of } 14\right) + \frac{1}{8} \div \frac{3}{4} \times 12$

## MODEL - 2

1. $\frac{5}{2} \div$ _____ $= 1$

Sol: Let x be o required value.

$\therefore\ \frac{5}{2} \times \frac{1}{x} = 1 \Rightarrow x = \frac{5}{2}$

2. $\frac{3}{7} \times$ _____ $= -4$

3. $\frac{3}{5} -$ _____ $= \frac{7}{5}$

4. _____ $+ \frac{5}{7} = \frac{2}{7}$

5. $\frac{2}{5} \div$ _____ $= \frac{-3}{5}$

## MODEL - 3

1. Find the sum of $\frac{3}{7}$ & $\frac{2}{5}$ =

Sol: $\frac{3}{7}+\frac{2}{5}=\frac{15+14}{35}=\frac{29}{35}$

2. Find $\frac{7}{9}-\frac{2}{3}=$

3. Find $2\frac{1}{2}+1\frac{2}{3}-3\frac{1}{3}$

4. $1\frac{3}{7}-2\frac{4}{5}-\frac{1}{5}=$

5. $\frac{2}{3}+\left(\frac{-3}{2}\right)^{-1}=$

6. Subtract $\frac{5}{7}$ from $\frac{6}{7}$

7. Subtract $\frac{1}{4}$ from $\frac{3}{7}$

## MODEL – 4

1. Add –0.06 and –1.8

Sol: –0.06 + (–1.8) = –1.86

2. Add –54.01, 10.569 and 8.4

3. 9 – 0.75 + 2.50 – 4.35

4. $2.56+\frac{5.2}{100}+\frac{2.5}{10}=$

5. $54.32-\frac{54.3}{100}+\frac{5.43}{10}=$

## MODEL – 5

1. Which of the following is smallest.

i) $\frac{2}{3},\frac{-1}{2},\frac{3}{5},\frac{-1}{1},\frac{-2}{5}$

L.C.M of 2, 3, 5 = 30

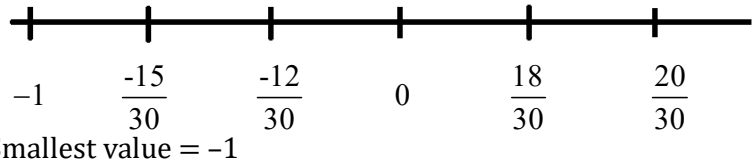
$\frac{2\times10}{3\times10}=\frac{20}{30}$

$\frac{-1\times15}{2\times15}=\frac{-15}{30}$

$$\frac{3\times 6}{5\times 6}=\frac{18}{30}$$

$$\frac{-1\times 30}{1\times 30}=-1$$

$$\frac{-2\times 6}{5\times 6}=\frac{-12}{30}$$




Smallest value = –1

2. $\frac{2}{5},\frac{-11}{7},\frac{1}{2},\frac{6}{5},\frac{-5}{2}=$

3. Which of the following greatest

$\frac{-3}{7},\frac{1}{5},\frac{-6}{7},\frac{3}{5},\frac{1}{6}$ is

4. Which of the following greatest

$\frac{-1}{2},\frac{-6}{2},\frac{-5}{6},\frac{-7}{6}$ is

5. Which of the following greatest

$\frac{1}{7},\frac{3}{9},\frac{-1}{2},\frac{5}{2},\frac{1}{9}$ is

## MODEL – 6

1. Find x such that $\left(\frac{3}{5}\right)^{3}\times\left(\frac{3}{5}\right)^{-6}=\left(\frac{3}{5}\right)^{2x-1}$

$$\left(\frac{3}{5}\right)^{-3}=\left(\frac{3}{5}\right)^{2x-1}\Rightarrow 2x-1=-3$$

$$2x = -2$$

$$x = -1$$

2. Find n when $8 \times 2^{n+2} = 32$

3. Find n when $6^{n+2} \div 36 = 6^{3}$

4. If $2^{n-7} \times 5^{n-4} = 1250$ find the value of n.

5. Find the value of n if $25^{n-1} + 100 = 5^{2n-1}$

6. If $\frac{9^{n}\times 3^{2}\times 3^{n}-(27)^{n}}{(3^{3})^{5}\times 2^{3}}=\frac{1}{27}$ find the value of n

## MODEL – 7

1. Find the value of $(7x^2 + 2x)(x + 1)$ where $x = -2, x = 0$

Sol: Where $x = -2$, $(7x^2 + 2x)(x + 1) = [7(-2)^2 + 2(-2)][-2 + 1]$

$= (7 \times 4 - 4)(-1) = (28 - 4)(-1) = 24 \times -1 = -24$

Where $x = 0$, $(7x^2 + 2x)(x + 1) = [7(0)^2 + 2(0)][0 + 1]$

$= (0 + 0)(1) = 0 \times 1 = 0$

2. Find the value of $(3m^2 + \frac{1}{2} + m)$ when $m = -3$ and $m = 3$

3. Find the value of $7p^2 + 15p + \frac{3}{2}$ when $p = -1$ and $p = 0$

4. Find the value of $(8x^2 + 7x) - (3x^2 - 2x + 1)$ when $x = 2$ and $x = 3$

5. Find the value of $3a^3 - 5a^2 + 6a - 1$ when $a = \frac{1}{2}$ and $a = \frac{1}{3}$

## MODEL – 8

1. If the angles of a triangle are in the ratio 2 : 3 : 4, then find the angles.

Sol: Given ratio of angles of the triangle = 2 : 3 : 4

Let the angles be $2x^0$, $3x^0$ and $4x^0$ respectively

We know that sum of the angles of a triangle $= 180^0$

$\therefore\ 2x + 3x + 4x = 180^0$

$\Rightarrow 9x = 180$

$\Rightarrow x = \frac{180}{9} = 20^0$

$2x = 2 \times 20 = 40^0$

$3x = 3 \times 20 = 60^0$

$4x = 4 \times 20 = 80^0$

$\therefore$ Angles of the triangles are $40^0, 60^0, 80^0$

2. Angles of a triangle are in the ratio 1: 1: 2. Then, what type of triangle is it?

3. Angles of a triangle are in the ratio 5 : 3 : 1. Then what type of triangle is it?

4. The sides of a triangle are in the ratio 3 : 4 : 5. If the perimeter of the triangle is 240cm, find the length of each side.

5. The two angles of a triangle is in the ratio 5 : 3 and the third angle is $100^0$. Find the measures of first two angles.

## MODEL – 9

1. Express 50grams as the percentage of 5kg.

Sol: 5kg = 5000g

$$\text{Required percentage} = \frac{50g}{5000g} \times 100\% = \frac{5000}{5000}$$

$$= 1\%$$

2. Express 18 minutes as the percentage of 10 hours.

3. Express 3.5 days as the percentage of 2 weeks

4. Express 76cm as the percentage of 1km

5. What percentage of 5m is 20cm.

6. If there are 20 boys and 30 girls in a class. What is the percentage of girls in the class?

7. In an auditorium, 60% seats are filled. If the total number of seats in the auditorium is 420, then how many seats are not filled?

## MODEL – 10

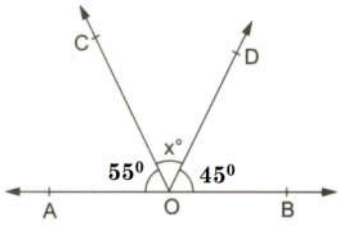
1. In the figure, if AOB is a straight line, find the value of x.

Sol: Since AOB is a straight line

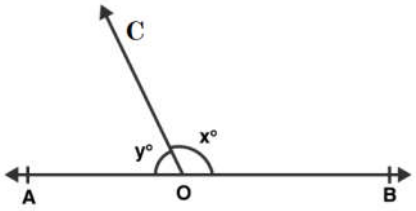
$\angle AOC + \angle COD + \angle BOD = 180^0$

$\Rightarrow 55 + x + 45 = 180$

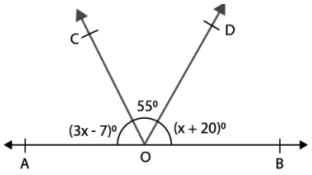
$X = 180 - 100 = 80^0$



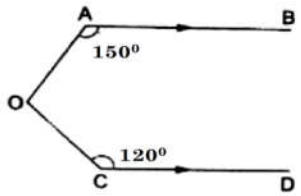

2. In the figure AOB is a straight line and 4x = 5y. What is the value of x.



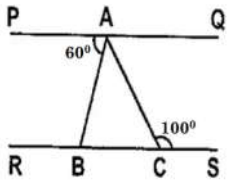

3. In the figure AOB is a straight line $\angle AOC = (3x-7)^0, \angle COD = 55^0$ and $\angle BOD = (x+20)^0$. Find the value of x.




4. In the given figure AB||CD. If $\angle OAB = 150^0$ and $\angle OCD = 120^0$ then find $\angle AOC$.

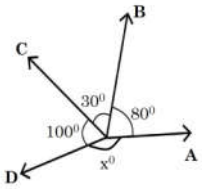


5. In the figure, PQ||RS $\angle PAB = 60^0$ and $\angle ACS = 100^0$ then find $\angle AOC$




6. The angles of a triangle are $(3x)^0$, $(2x - 7)^0$ and $(4x - 11)^0$, then find the value of x.

7. From the figure, find the value of x.




## MODEL – 11

1. Find the area of an equilateral triangle whose each side is 15cm.

Sol: Given: a = 15cm

Area of equilateral triangle $= \frac{\sqrt{3}}{4}a^2$

$$= \frac{\sqrt{3}}{4}15\times 15$$

$$= \frac{225\sqrt{3}}{4} = 56.25\sqrt{3}\ cm^2$$

2. Area of an equilateral triangle is $100\sqrt{3}\ cm^2$. Find its perimeter .

3. The base and corresponding height of a triangle are 8cm and 9cm respectively. Find its area.

4. Area of a triangle is 630 $cm^2$. If one side is 21cm, find the length of the corresponding height.

5. Perimeter of an equilateral triangle is 36cm. Find its area.

6. Find the area of an equilateral triangle whose each side is 20cm.

## MODEL – 12

1. Find the mean of 8, 12, 6, 2, 8, 10

Sol: $\text{Mean} = \frac{\text{Sum of the observations}}{\text{number of observations}}$

$$\frac{8+12+6+2+8+10}{6} = \frac{46}{6} = 7.67$$

2. Find the mean of first 8 multiples of 5

3. Find the mean of all factors of 24.

4. The mean of marks in 6 subjects of a students is 82. What is the sum of marks in all the 6 subjects.

5. Find the mean all factors of 100.

## MODEL – 13

1. $\frac{23.85}{0.53} =$

Sol: $\frac{2385}{100} \times \frac{100}{53} = 45$

2. $1.25 \times 54 \times 0.08 =$ _____.

3. $45.45 \div 4.5 =$ _____.

4. $545454 \div 5.4 =$ _____.

5. $2.5 \times 845 \times 0.01 =$ _____.

6. $6345.36 \div 0.9 =$ _____.

## MODEL – 14

1. Multiply $\frac{2}{5}, \frac{10}{13}$ and $\frac{5}{8}$

Sol: $\frac{2}{5} \times \frac{10}{13} \times \frac{5}{8} = \frac{5}{26}$

2. $\frac{11}{12} \times \frac{15}{16} \times \frac{2}{13} =$

3. $2\frac{1}{10} \times 2\frac{2}{7} \times 3\frac{3}{4} =$

4. $1\frac{1}{7} \times 2\frac{3}{4} \times 1\frac{3}{11} =$

5. $5 \times 1\frac{3}{10} \times 1\frac{3}{5} =$

6. $1\frac{1}{2} \times 6 \times 1\frac{1}{12} \times 1\frac{1}{3} =$

7. $3 \times 1\frac{5}{6} \times 2\frac{2}{3} =$

## MODEL – 15

1. In ΔABC, AB = BC = CA then $\angle ABC$ is

Sol: AB = BC = CA $\Rightarrow \angle A = \angle B = \angle C$

$\angle A + \angle B + \angle C = 180^0$ (sum of angles of a triangle)

$\angle A + \angle A + \angle A = 180^0$

$3\angle A = 180^0$

$\angle A = 60^0$

$\therefore \angle ABC = 60^0$

2. In $\triangle$PQR, if PQ = QR, $\angle R = 44$ then $\angle Q$ = _____

3. In $\triangle$DEF, if EF = FD, $\angle F = 110^0$ then $\angle E$ = _____

4. In Right angle Isosceles triangle ABC $\angle A = 90^0$ the $\angle B$ = _____.

5. In $\triangle$ABC, if $\angle A = \angle C$, $\angle C = 55^0$ then $\angle B$ = _____

6. In $\triangle$ABC, if $\angle B = 70^0$ and AB = AC then $\angle$A= _____

## MODEL – 16

1. How much less than –4 is –11?

Sol: –4 – (x) = –11

–4 + 11 = x

x = 7

2. How much less than –7 is –16?

3. What must be subtracted from –7 to obtain –15?

4. The sum of two integers is –6. If one of then is '2' Find the other.

5. The difference of an integers P and –8 is '3'. Find the value of P.

6. By how much does –3 exceed –5?

7. On subtracting 4 from –4 we get.

8. By how much does 2 exceed –3?

## MODEL – 17

1. The total cost of 24 chairs is ₹9255.60. Find the cost of 5 such chairs.

Sol: $\text{Cost of each chair} = \frac{9255.60}{24} = 385.65/-$

Cost of 5 chairs = 5 × 385.65 = 1928.25/-

2. Monica cuts 46m of cloth into pieces of 1.15m each. How many pieces does she get?

3. The weight of 37 bags of sugar is 3644. 5kg. If all the bags weigh equally. What is the weight of 10 such Bags?

4. Mrs. Bose bought 15.5 litres of refined oil for Rs1122.20. Find its cost per litre.

5. Each side of a polygon is 2.9cm in length and its perimeter is 17.4cm. How many sides does the polygon have?

## MODEL – 18

1. Simplify $\frac{5^7 \times 6^7}{10^5 \times 3^5}$.

Sol: $\frac{5^7 \times (2\times 3)^7}{(2\times 5)^5 \times 3^5} = \frac{5^7 \times 2^7 \times 3^7}{5^5 \times 2^5 \times 3^5} = 5^{7-5} \times 2^{7-5} \times 3^{7-5} = 5^2 \times 2^2 \times 3^2 = 900$

$\left((ab)^m = a^m \times b^m\right)$

$\left(\frac{a^m}{a^n} = a^{m-n}\right)$

2. Simplify $\frac{14^3 \times 6^3 \times 5^3}{(21)^2 \times (35)^2 \times (2)^2}$

3. Simplify $\frac{3^7 \times 2^8 \times 5^9}{5^7 \times 2^7 \times 243}$

4. Simplify $\frac{10^4 \times (35)^2}{(14)^2 \times (125)^2}$

5. Simplify $\frac{4^6 \times 125 \times 3^5}{8^3 \times 25 \times 81}$

6. Simplify $\frac{3^6 \times 10^6 \times 125}{5^8 \times 6^8}$

## MODEL – 19

1. What should be subtracted from $2x^2 - 3y^2 + 6xy$ to get $x^2 - y^2$

Sol: In order to get the result, we subtract

$x^2 - y^2$ from $2x^2 - 3y^2 + 6xy$

$2x^2 - 3y^2 + 6xy - (x^2 - y^2)$

$2x^2 - 3y^2 + 6xy - x^2 + y^2$

$x^2 - 2y^2 + 6xy$

$\therefore$ We should subtract $x^2 - 2y^2 + 6xy$ from $2x^2 - 3y^2 + 6xy$ to get $x^2 - y^2$

2. What should be subtract from $x^3 - 4y^2 + 9xy$ to get $9xy$.

3. What should be subtract from $x^2 - 2y^2 + 9x$ to get $y^2 + 9x$.

4. What should be subtract from $-7x^3 + 4x^2 + 6x$ to get $x^3 + x^2$.

5. What should be subtract from $5m^2 + 4xm + 2m^3$ to get $m^2 + 2xm$.

6. What should be subtract from $9y^4 - 6y^3 + 2xy + 7x^2$ to get $6x^2 + y^3 + 2xy$.

## MODEL – 20

1. If $\frac{y-1}{3}-\frac{y-2}{4}=1,$ then 'y' is

Sol: In order find the value of 'y' we need to do L.C.M

So. L.C.M of 3, 4 is 12

$$\frac{4(y-1)-3(y-2)}{12}=1$$

$4y - 4 - 3y + 6 = 12$

$y + 2 = 12$

$y = 12 - 12$

$y = 10$

2. If $\frac{x+5}{3}-\frac{x-2}{7}=9,$ then 'x' is

3. Find the value of y if $\frac{y+3}{6}-\frac{y-7}{5}=2$

4. If $\frac{y+1}{2}-\frac{y+2}{9}=5,$ then 'y' is

5. If $\frac{x-7}{4}-\frac{x+9}{12}=1,$ then 'x' is

6. If $\frac{y+9}{5}-\frac{y-2}{4}=4,$ then 'y' is

7. If $\frac{9+y}{2}-\frac{y-7}{3}=1,$ then 'y' is

## MODEL – 21

1. The sum of two consecutive multiples of 3 is 69, the numbers are.

Sol: Le the two consecutive numbers are x, x + 1

The two consecutive multiples of 3 are 3x, 3(x + 1)

As per the question

$3x + 3x + 3 = 69$

$6x + 3 = 69$

$6x = 69 - 3$

$6x = 66$

$X = 11$

$\therefore$ The numbers are $3(11) = 33, 3(11 + 1) \Rightarrow 3(12) = 36$

2. The sum of two consecutive multiples of 2 is 78, then numbers are

3. The sum of two consecutive multiples of 4 is 96, then numbers are

4. The sum of two consecutive multiples of 3 is 108, then numbers are

5. The sum of two consecutive number is 45 what are the numbers

6. The sum of two consecutive even number is 10 find the numbers

## MODEL – 22

1. After 12 years I shall be 3 times as old as I was 4 years ago. Find my present age?

Sol: Let my present age =x years.
After 12 years my age will be x+12 years.
4 years ago my age was x−4 years.
So x+12=3(x−4)
⇒x+12=3x−12
⇒3x−x=12+12
⇒2x=24
∴x=12 years
Therefore, the present age is 12 years.

2. What is Ravi's present age, if after 20 years his age will be 10 times his age 10 years back.

3. 18 years ago, a man was three times as old as his son. Now the man is twice as old as his son. The sum of the present ages of the man and his son is.

4. Jo is 4 times as old as his son, 4 years later the sum of their ages will be 43 years, the present age of son is.

5. 20 years ago my age was 1/3 of what it is now. What is my present age.

6. A grand father is 10 times older than his grand daughter. He is also 54 years older than her. Find their present age.

## MODEL – 23

1. If A : B = 5: 6 and B : C = 8 : 9 then A : B : C is

Sol: Given, A:B=5:6
Multiplying it with 4, we get A:B=20:24

And, B:C=8:9
Multiplying it with 3, we get A:B=24:27

In the given ratios "B" is the common term, and the values of B in both ratios are equal.

Therefore, A:B:C=20:24:27

2. If C : D = 4: 6 and D : E = 7 : 9 then C : D : E is

3. If A : B = 5: 9 and B : C = 9 : 4 then A : B : C is

4. If E : F = 2: 3 and F : G = 9 : 12 then E : F : G is

5. If X : Y = 4: 7 and Y : Z = 2 : 9 then X : Y : Z is

6. If A : B = 7: 8 and B : C = 49 : 72 then A : B : C is

## MODEL – 24

1. If 4/5 of water tank is filled in 1 minute, how much more time will be required to fill the rest of the tank?

Sol: Time taken to fill 4/5 of water tank = 1 min.
By unitary method:
Time taken to fill the one empty tank = 1 x 5/4 =5/4 min = 1 min 15 sec.

2. 10 persons can fill up a water tank in 20 hours.How many persons are needed to fill it up in 5 hours?
3. A water pipe can fill half of the water tank in 45 minutes. How much time the take to fill 4 such water tanks?
4. If a pipe fills the tank in 10 minutes, how much minutes it will take to half fill the tank if we connect two pipes?
5. If 6 oil tankers can be filled by a pipe in 4 ½ hours, how long does the pipe take to fill 4 such oil tankers?
6. If 48 men can dig a trench in 14 days, how long will 28 men take to dig a similar trench.

## MODEL - 25

1. Find the simple interest on ₹ 7200 at 5% per annum for 8 months. Also find the amount.

Sol: P = ₹ 7200

R = 5%

T = 8 months = $\frac{8}{12}$ years = $\frac{2}{3}$ years

SI = $\frac{PRT}{100}$

$= 7200 \times 5 \times \frac{2}{3} \times \frac{1}{100}$

= ₹ 240

Amount = P+SI

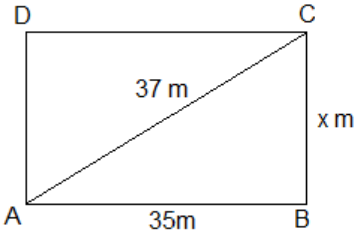
= 7200 +240 = ₹ 7440

2. Simple interest on a certain sum is $\frac{16}{25}$ of the sum. Find the rate percent and the time if both are numerically equal.
3. A sum of money becomes $\frac{8}{5}$ of itself in 5 years at a certain rate of simple interest. Find the rate of interest.
4. In what time will ₹ 3600 amounts to ₹ 4320 at 8% per annum simple interest.
5. Divide ₹ 12000 into two parts such that the simple interest on the first part for 2 years at 6% per annum is equal to the simple interest on the second part for 3 years at 8% per annum.

## MODEL – 26

1. Find the area of a rectangular plot, one side of which measures 35 m and the diagonal is 37 m.

Solution: Let ABCD be the rectangular plot.




Then AB= 35 m and AC = 37 m.

Let BC = x m

From right triangle ABC we have :

$AC^2 = AB^2 + BC^2$

$\Rightarrow \quad 37^2 = 35^2 + x^2$

$\Rightarrow \quad x^2 = 37^2 - 35^2 = (37+35)(37-35) = 72\times2 = 144$

$\Rightarrow \quad x = \sqrt{144} = 12$

That is BC = 12 m

Hence area of the plot $= 35\times12 = 420$ m$^2$

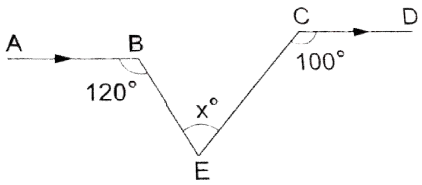
2. Find the perimeter of the rhombus if the diagonals are 24 cm and 10 cm.
3. Find the area of the rectangle if the diagonal is 41 cm and one side is 40 cm.
4. Find the perimeter of the rhombus whose area is 120 cm$^2$ and one of the diagonal is 10 cm.
5. Find the area of the rectangle whose one of the diagonal is 10 cm and one side is 8 cm.

## MODEL – 27

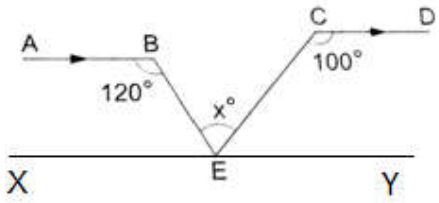
1. If the diagonal of a square is 10 cm , find its area.
   Solution: given d = 10 cm
   Area of a square = $\frac{d^2}{2} = \frac{10\times10}{2} = 50$ cm$^2$
2. If the diagonal of a square is 12 cm , then find its area.
3. If the perimeter of a square is 100 cm, then find its area.
4. If the diagonals of a rhombus are 10 cm and 8 cm , then find its area.
5. If the diagonal of a square is 18 cm, then find its area.

## MODEL – 28

1. In the given figure AB $\parallel$ CD. $\angle ABE = 120^0, \angle DCE = 100^0$ then findthe value of $x$.




Solution: Draw a line XY parallel to AB and CD through E




$120 + \angle BEX = 180^0$ [ co- interior angles]

$\angle BEX = 180 - 120 = 60^0$

$100 + \angle BEX = 180^0$ [ co- interior angles]

$\angle CEY = 180 - 100 = 80^0$

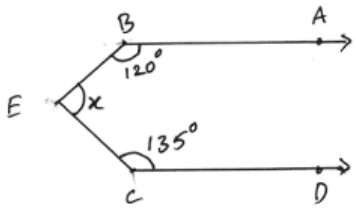
Since XEY is a straight line,

$\angle BEX + \angle BEC + \angle CEY = 180^0$

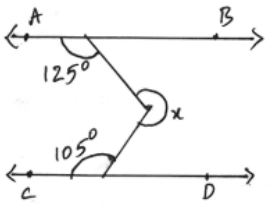
That is : $60 + x + 80 = 180$

$\Rightarrow \quad x = 180 - 140 = 40^0$

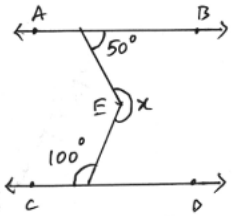
2. In the given figure AB ‖ CD . Find x



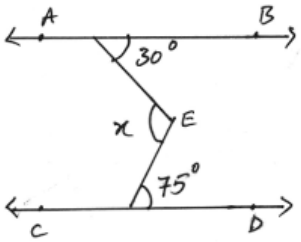

3. In the given figure AB ‖ CD . Find x



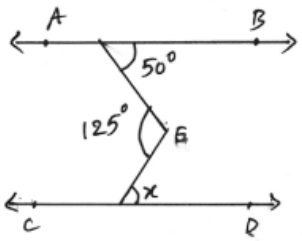

4. In the given figure AB ‖ CD . Find x




5. In the given figure AB ‖ CD . Find x




6. In the given figure AB ‖ CD . Find x



## MODEL – 29

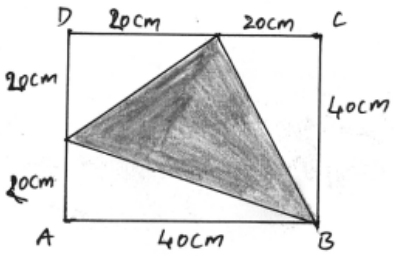
1. Find the area of the shaded region in the given figure.

Sol: Area of Δ BEF = area of square ABCD – (Area of Δ ABF + Area of Δ BCF + Area of Δ DEF)

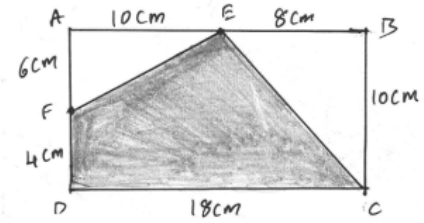
$$= 40\times 40 - \left(\frac{1}{2}\times 40 \times 20 + \frac{1}{2}\times 40 \times 20 + \frac{1}{2}\times 20 \times 20\right)$$

$$= 1600-(400 + 400 + 200)$$

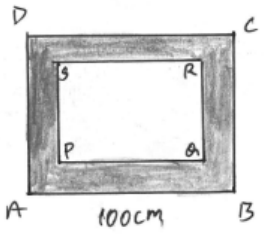
$$= 1600- 1000 = 600 \text{ cm}^2$$



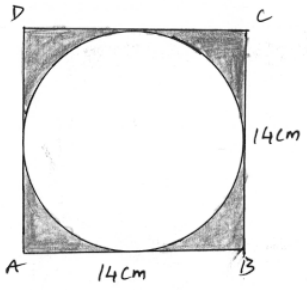

2. Find the area of the shaded region in the given figure.



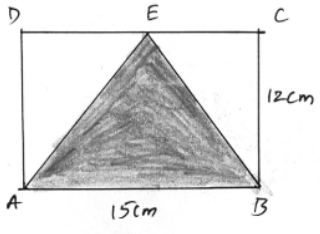

3. A path 5 m wide runs along inside a square park of side 100 m. find the area of the path.




4. Find the area of the shaded region in the given figure.




5. Find the area of the shaded region in the given figure.



**MODEL – 30**

1. If the area of a circle is 154 $cm^2$ then find its circumference.

   Solution: Given area of the circle = 154

   That is, $\pi r^2$=154

   $\Rightarrow \frac{22}{7} \times r^2 = 154$

   $\Rightarrow r^2 = 154 \times \frac{7}{22} = 7^2$

   $\Rightarrow r = 7$

   Circumference of the circle $= 2\pi r = 2 \times \frac{22}{7} \times 7 = 44$ cm

2. If the circumference of a circle is 88 cm. find its area.
3. If the diameter of a circle is 7 cm, find its area.
4. If the circumference of a circle is 31.4 cm, find its area. (take $\pi = 3.14$)
5. Find the perimeter of a semicircle including diameter whose radius is 35 cm.
6. If the area of the circle is 616 $cm^2$, find its circumference.

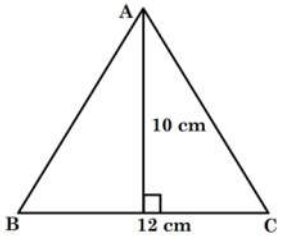
# FUNDAMENTAL TEST

**CLASS: VII (COMPLETED)** **MARKS: 30**
**SUB: MATHEMATICS** **TIME: 1 Hr**

**Name of the Student: …… Mobile No: ……**

**I. Answer the following questions.** **20 X 1 = 20**

1. $3\frac{1}{4}+\frac{5}{6}+2=$ _____.
2. Subtract $\frac{2}{9}$ from $\frac{7}{12}$ : _____.
3. $\frac{14}{3}\div\frac{7}{15}=$ _____.
4. 47 + 4.7 + 0.47 = _____.
5. 1000 – 64.56 = _____.
6. 72.72 ÷ 72 = _____.
7. $\frac{16.5}{1000}=$ _____.
8. (–3) + (–7) + (–2) + (–2) = _____.
9. –18 – (–14) = _____.
10. (–1) × (–1) × (–1) × (–1) × (–1) × (–1) × (–1) × (–1) × (–1) × (–1) = _____.
11. 10 + 6 ÷ 2 –2 × 1 = _____.
12. If 2 : 3 : : 6 : x, then x = _____.
13. If 2x + 5 = 22, then x = _____.
14. If the length and breadth of a rectangle are 12cm and 6cm respectively, then its perimeter is _____.
15. Area of triangle given in the figure is _____.




16. 60% of 15000 = _____.
17. If two angles of a triangle are $55^0$ and $75^0$, then the measure of the third angle is _____.
18. Write an equation for the following statement:
    "When I subtracted 11 from twice a number, the result was 15" _____.
19. The mean of first 10 natural numbers is _____.
20. $(343 - 21)^0$ = _____.

**II. Answer the following questions.** **10 X 1 = 10**

21. Cost of one toffee is Rs $2\frac{1}{2}$, then the cost of 16 toffees are _____.

22. If weight of 6 rice bags is 147 kg, then the weight 1 bag is _____.

23. If x + 9 – (3 – 2x) = 0, then x = _____.

24. Sum of all factors of 20 is _____.

25. (2x – 4y + 3z) – (x – 5y) =_____.

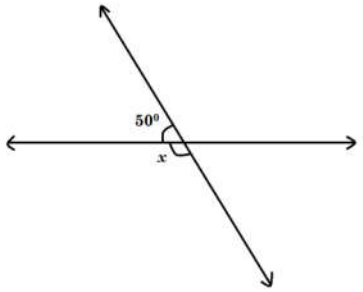
26. The value of $x^3 + 3x^2 + 4x - 2$ when x = –2 is _____.

27. Then value $\frac{3^4 \times 3^5}{9^2}$ _____.

28. If the diameter of a circle 14cm, then its circumference is _____.

29. The perimeter of a right triangle whose legs are 3cm and 4cm is _____.

30. From the figure, the value of x is _____.



# FUNDAMENTAL TEST

**CLASS: VII (COMPLETED)** **MARKS: 30**
**SUB: MATHEMATICS** **TIME: 1 Hr**

**Name of the Student: …… Mobile No: ……**

**KEY**

1. $\frac{73}{12}$
2. $\frac{13}{36}$
3. 10
4. 52.17
5. 935.44
6. 1.01
7. 0.0165
8. –14
9. –4
10. 1
11. 11
12. 9
13. $\frac{17}{2}$
14. 36 cm
15. 60 $cm^2$
16. 9000
17. $50^0$
18. 2x – 11 = 15
19. 5.5
20. 1
21. ₹40
22. 24.5kg
23. –2
24. 42
25. x + y + 3z
26. –6
27. 243 (or) $3^5$
28. 44 cm
29. 12 cm
30. $130^0$

# APPLICATION LEVEL TEST

**CLASS: VII (COMPLETED)** **MARKS: 30**
**SUB: MATHEMATICS** **TIME: 1 Hr**

**Name of the Student: …… Mobile No: ……**

## SECTION - A

**I. Answer the following questions.** **30 X 1 = 20**

1. $20 + 36 \div 9 \times 14 - 14 =$ _____.

2. $\frac{14}{3} \div$ _____ $= 4$

3. Sum of $\frac{3}{4}$ and the reciprocal of $1\frac{5}{7}$ is _____.

4. $73.46 + \frac{536}{1000} - \frac{431}{50}$ = _____.

5. Which among the following is the smallest?

   $-2, \frac{-13}{6}, \frac{8}{-3}, \frac{-7}{9}$ : _____.

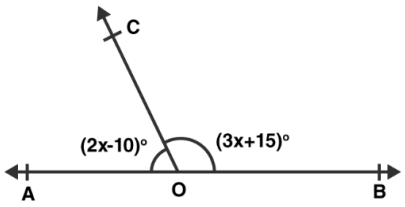
6. If $9 \times 3^n = 729$, then 'n' is _____.

7. The value of $(-3y)(xy + y^2)$ when x = 4 and y = 5 is _____.

8. Ratio of angles of a triangle is 1:2:3, then it is _____ triangle.

9. Express 18 hours as a percentage of 3 days: _____.

10. In the figure, the value of *x* is _____.




11. The area of an equilateral triangle whose each side is 10cm is _____.

12. Mean of first 10 prime numbers is _____.

13. $2.08 \div 0.16 =$ _____.

14. $3\frac{4}{7} \times 2\frac{2}{5} \times 1\frac{3}{4} =$ _____.

15. In $\triangle ABC$, AB = AC. If $\angle B = 53^0$, the $\angle A =$ _____.

## SECTION - B

16. How much less than –2 is –8? _____.

17. The cost of 24 toys of the same kind is ₹783.60, then the cost of 5 such toys is _____.

18. Value of $\frac{3^5 \times 10^5 \times 25}{5^7 \times 6^7}$ is _____.

19. What should be subtracted from $2x^2 - 3y^2 + 6xy$ to get $x^2 - y^2$? _____.

20. If $\frac{y-1}{3} - \frac{y-2}{4} = 1$, then 'y' is _____.

21. The sum of two consecutive multiples of 3 is 69. The numbers are: _____ and _____.

22. After 12 years, Manoj will be 3 times as old as he was 4 years ago, then his present age is _____

23. If A: B = 5:6 and B: C = 8:9 then A:B:C is _____.

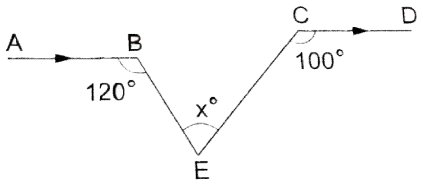
24. If $\frac{4}{5}$ of water tank is filled in 1 minute, how much more time will be required to fill the rest of the tank? _____.

25. At What rate percent per annum simple interest will a sum triple itself in 16 years is_____

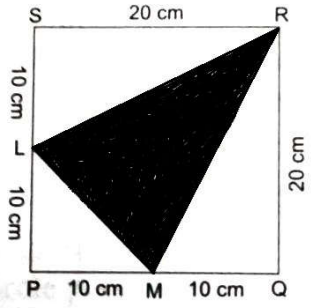
26. A perimeter of a rhombus whose diagonals are 48cm and 14cm is _____.

27. If the diagonal of a square is 8cm, then its area is _____.

28. In the given figure AB $\parallel$ CD. $\angle ABE = 120^0, \angle DCE = 100^0$ then the value of $x$ _____.




29. Area of the shaded region in the figure is _____.




30. Area of a circle is 38.5cm$^2$ and then its circumference is _____.

# APPLICATION LEVEL TEST

**CLASS: VII (COMPLETED)** **MARKS: 30**
**SUB: MATHEMATICS** **TIME: 1 Hr**

**Name of the Student: …… Mobile No: ……**

**KEY**

1. 62
2. $\frac{7}{6}$
3. $\frac{4}{3}$
4. 65.376
5. $-\frac{13}{6}$
6. 4
7. -675
8. Right angle
9. 25%
10. 35
11. $25\sqrt{3}cm^2$
12. 12.9
13. 13
14. 15
15. $74^0$
16. 6
17. Rs 163.25
18. $\frac{1}{36}$
19. $x^2 - 2y^2 + 6xy$
20. 10
21. 33 & 36
22. 12
23. 20:24:27
24. 15 seconds
25. 12.5%
26. 100cm
27. $32cm^2$
28. $40^0$
29. $150\ cm^2$
30. 22cm