

CLASS $\Rightarrow$ 7th

SUB $\Rightarrow$ MATHEMATICS

SESSION $\Rightarrow$ 2021

TERM $\Rightarrow$ Ist

M. MARKS $\Rightarrow$ 60

PART - A

Attempt any four (4) Questions:

Q1 $\Rightarrow$ Add the following.

a) $x^2 - y^2 - 1$, $y^2 - 1 - x^2$ and $1 - x^2 - y^2$

b) $14x + 10y - 12xy$, $-7x - 10y + 8xy$ and xy .

Q2 $\Rightarrow$ When $x = -3$ and $y = 2$, find the value of the following expressions:

a) $8x^2 - 7x + 3$

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

Q3 $\Rightarrow$ Multiply the following:

a) $(8x - y)$ by $(2x + 3)$

b) $(8p + 3q + 5x)$ by $8q$.

Q4 $\Rightarrow$ Factorize the following:

a) $12a^3y^2 - 14a^2y^3 + 28ay^4$

b) $4p^2 - 16$.

Q5 $\Rightarrow$ Subtract the following:

a) $7pq - 11p^2q^2 - 6$ from $9p^2q^2 - 4pq^2 + 8p$

b) $(a - b)$ from $(a + b)$.

$\Rightarrow (4 \times 5 = 20)$

PART - B

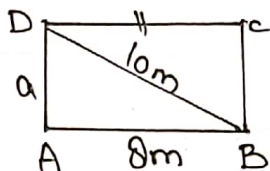
Attempt any five (5) Questions:

Q1 $\Rightarrow$ Construct a Triangle ΔPQR in which $PQ = 2.5\text{cm}$, $QR = 6\text{cm}$ and $PR = 6.5\text{cm}$.

Q2 $\Rightarrow$ Construct a Triangle ΔPQR in which $PQ = 5\text{cm}$, $PR = 3\text{cm}$ and $\angle QPR = 110^\circ$

Q3:→ The angles of the triangle are in the ratio 2:3:4.
Determine the three angles. What type of triangle is it according to (a) angles and (b) sides.

Q4:→ The length of a rectangle is 8m. its diagonal measures 10m. Find the perimeter of the rectangle



Q5:→ which of the following can be the possible lengths of a triangle:

a) 8cm, 5cm, & 3cm

(b) 6cm, 6cm, 6cm.

Q6:→ $\triangle ABC$ is an isosceles triangle right angled at C. Prove that $AB^2 = 2(AC)^2$

$$\Rightarrow (5 \times 6 = 30).$$

PART - C

Fill in The blanks:

- 1) $(\text{Hypotenuse})^2 = \underline{(\text{Per})^2} + \underline{\hspace{2cm}}$
- 2) Orthocentre is the point, where three of a triangle meet.
- 3) Sum of three angles of a triangle is
- 4) Name the property which states that sum of two sides of a triangle must be greater than the third side
- 5) The centroid of a triangle lie in the of the triangle
- 6) $3xy$ by $(2y) = \underline{\hspace{2cm}}$
- 7) $(a+b)^2 = \underline{\hspace{2cm}}$
- 8) How many terms $12pq + pq^2 - p^2q + 4$ have
- 9) A triangle can have medians.
- 10) The sum of x and y subtracted from 10.
 $\Rightarrow (10 \times 1 = 10).$