



P.V.G.'s
Mukhtangan English School & Jr. College,
44, Vidyanagari, Parvati, Pune - 411009.
Summative Written Test - I (2025-26)
Standard - VIII

Subject : Mathematics

Marks - 50

Date : 03.10.2025

Time : 8.00 am to 10.00 am

Q1. A) Fill in the blanks by selecting correct alternative and rewrite the sentences. (5)

i) If one diagonal is perpendicular bisector of the other diagonal, then the quadrilateral is called a _____.

- a) Kite b) Trapezium c) Parallelogram

ii) $4xy + 12xy^2 =$ _____.

- a) $4(xy + xy^2)$ b) $4xy(1 + 3y)$ c) $4xy^2(1 + 2y)$

iii) $15^0 =$ _____.

- a) 1 b) 2 c) 3

iv) Cube of (-7) is _____.

- a) 49 b) -343 c) 343

v) When two parallel lines are intersected by a transversal the angles formed in each pair of interior angles are _____.

- a) complementary b) congruent c) supplementary

B) Write the statements and state whether it is true or false. (5)

i) As the radius of the circle increases it's area also increases. This is an example of inverse variation.

ii) $\frac{18}{7} > 10$

iii) $(5m + 3n)(5m - 3n) = 25m^2 - 9n^2$

iv) Opposite angles of a rhombus are congruent.

v) The orthocentre of a right angled triangle is the vertex of the right angle.

X

Q2. Attempt any six of the following questions.

(12)

- If the market price = ₹ 1,700, selling price = ₹ 1,540, then find the discount.
- Factorise the following by filling in the given boxes.

$$x^2 + 9x + 18$$

Solution:

$$x^2 + 9x + 18$$

$$= x^2 + \boxed{} + \boxed{} + 18$$

$$= x(x+6) + \boxed{}(x+6)$$

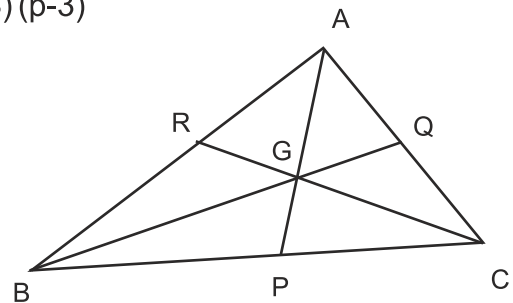
$$= (x + \boxed{})(x+6)$$

- 'm' varies inversely as 'n' when $m = 15$, then $n = 4$. Find the constant of variation and write equation of variation.

- Expand the following by using formula $(p+8)(p-3)$

- Observe the adjoining figure, point 'G' is the centroid of $\triangle ABC$.

If $\ell(BQ) = 12$, then find $\ell(BG)$ and $\ell(GQ)$ by stating the reason.



- Simplify: $\sqrt[3]{\frac{27}{125}}$

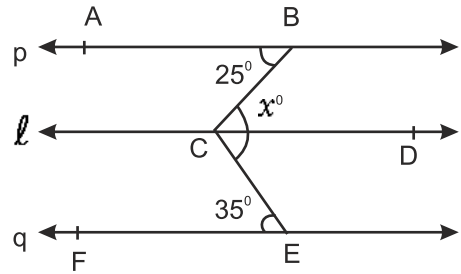
- Convert the following rational number into decimal form $-\frac{7}{9}$

Q3. Attempt any five of the following questions.

(15)

- Stating the identity factorise: $y^3 + \frac{1}{8y^3}$
- Draw an acute angled $\triangle PQR$. Draw all its altitudes and denote the orthocentre by 'O'.

- iii) Observe the adjoining figure and then find the value of x .
By filling in the boxes given below.



→ **Solution**

Line $p \parallel$ line l and for seg BC as a transversal.

$$\angle \boxed{} \cong \angle BCD \quad \text{————— (Interior alternate angles)}$$

$$\therefore m \angle BCD = \boxed{} \quad \text{————— (1)}$$

line $l \parallel$ line q and for seg CE as a transversal.

$$\angle CEF \cong \angle DCE \quad \text{————— (Interior alternate angles)}$$

$$\therefore m \angle DCE = \boxed{} \quad \text{————— (2)}$$

$$\therefore m \angle x = m \angle BCD + m \angle DCE$$

$$= \boxed{} + \boxed{} \quad \text{————— from (1) and (2)}$$

$$\therefore m \angle x = \boxed{}$$

- iv) Find the length of diagonal of a square with side 8 cm.
- v) Expand the following by stating formula $(2m - 5)^3$.
- vi) Ram sold books worth ₹ 4,500 for a publisher. For this he received 15% commission. Complete the following activity to find the total commission Ram obtained.

→ **Solution :**

$$\text{Selling price of book} = \boxed{}$$

$$\text{Rate of commission} = \boxed{}$$

$$\text{Commission obtained} = \frac{\boxed{}}{\boxed{}} \times \boxed{}$$

$$\text{Commission is ₹ } \boxed{}$$

Q4. Attempt any two of the following questions.

(8)

- i) In parallelogram the adjacent angles are x° , $(3x + 20)^\circ$. Find the measures of all angles of parallelogram.
- ii) The total remuneration paid to labourers, employed to harvest soyabean is in direct variation with the number of labourers. If remuneration of 4 labourers is ₹ 1,000 Find the remuneration of 17 labourers.

iii) $\frac{a^3 - 27}{5a^2 - 16a + 3} \div \frac{a^2 + 3a + 9}{25a^2 - 1}$

Q5. Attempt any one of the following.

(5)

- i) Construct $\square$ DEFG such that $\ell(DE) = 4.5$ cm, $\ell(EF) = 6.5$ cm, $\ell(DG) = 5.5$ cm
 $\ell(DF) = 7.2$ cm, $\ell(EG) = 7.8$ cm.
- ii) Ratio of measures of angles of $\square$ ABCD is 7:9:3:5, then find the measures of it's each angle and write the type of the quadrilateral.

