1. Given two sets A and B,

(i) \( (A - B) \cap (B - A) = ? \)

(ii) \( A = \{x, y, z\} \), \( |A| = ? \)

(iii) \( A = \{1, 2, 3\}, B = \{3, 4, 5\} \)

\( |A \times B| = ? \)

(iv) \( |A|^3 = ? \)

(v) \( 4 \) and \( 6 \) are co-prime. Is \( 4 \) and \( 6 \) co-prime? \( ? \)

2. Solve the equations.

(i) \( P(x) = 2x^2 + 3x + 1 \) and \( 2x - 3 \) \( ? \)

(ii) \( x^2 - 9 = (x + 3) \times ? \)

(iii) \( \text{If } 6x \text{ is divisible by } 4, \text{ find } x \) ?

(iv) \( 1 \times 2 \) and \( 2 \times 3 \), are \( 1 \times 2 \) and \( 2 \times 3 \) \( ? \)

(v) \( (125)^{\frac{1}{3}} \) is \( ? \)

3. Solve the equations.

(i) \( P(x) = 0 \) and \( \text{If } x^2 - 9 = (x + 3) \times ? \)

(ii) \( x^2 - 9 = (x + 3) \times ? \)

(iii) \( 6x \text{ is divisible by } 4, \text{ find } x \) ?

(iv) \( 1 \times 2 \) and \( 2 \times 3 \), are \( 1 \times 2 \) and \( 2 \times 3 \) \( ? \)

(v) \( (125)^{\frac{1}{3}} \) is \( ? \)

4. Solve the equations.

(i) \( ax + b = 0 \) and \( 2x^2 + 5 = 21 \times \) \( ? \)

(ii) \( 3x^2 = \frac{1}{28} \times \) \( ? \)

(iii) \( x - y = 0 \) \( ? \)

(iv) \( x = 0, y = 0 \) \( ? \)

(v) \( 5^x = 125 \times \) \( ? \)

5. Solve the inequalities.

(i) \( x > 0, y > 0 \times P(x, -y) \) \( ? \)

(ii) \( (5, 0) \) \( ? \)

(iii) \( (-3, 2) \) \( ? \)

(iv) \( x - y = 0 \) \( ? \)

(v) \( x = 0, y = 0 \) \( ? \)

6. Solve the problems.

(i) \( \overrightarrow{AB} = -3 \times 5 \times \) \( ? \)

(ii) \( \overrightarrow{AB} = 16 \times 20 \times \) \( ? \)

(iii) \( \pi \) \( ? \)

(iv) \( 50^\circ \) \( ? \)

Objective - (P-I)

Sample Questions for Class IX Students

As per New Pattern of Evaluation, 2018-19

Mathematics (MTH)

Answer All Questions

A \( \subset \) B: \( \text{Set Difference} \)

(i) \( |A - B| = ? \)

(ii) \( A = \{x, y, z\} \), \( |A| = ? \)

(iii) \( A = \{1, 2, 3\}, B = \{3, 4, 5\} \)

\( |A \times B| = ? \)

(iv) \( |A|^3 = ? \)

(v) \( 4 \) and \( 6 \) are co-prime. Is \( 4 \) and \( 6 \) co-prime? \( ? \)

Geometrical Problems

(i) \( \overrightarrow{AB} = -3 \times 5 \times \) \( ? \)

(ii) \( \overrightarrow{AB} = 16 \times 20 \times \) \( ? \)

(iii) \( \pi \) \( ? \)

(iv) \( 50^\circ \) \( ? \)
(v) In the figure, find the ratio of $x$ to $3x$.

7. Given $A B = 30$, find $m \angle A : m \angle B = 2:3$.

(ii) Given a triangle $ABC$ with $AB = AC$ and $\angle B = 30^\circ$, find the ratio of $\angle A$ to $\angle B$.

(iii) In the diagram, find $\angle A$ and $\angle B$ if $\angle L_1$ and $\angle L_2$ are given.

(iv) If $\sin 60^\circ \times \cos 30^\circ + \cos 60^\circ \times \sin 30^\circ$, find the result.

(v) If $\tan \alpha = \frac{5}{12}$ and $\cot \alpha \times \cosec \alpha$, find the result.

8. In the rectangle $ABCD$, find $\angle A$ if $AB = AC$ and $\angle B = 30^\circ$.

(i) If the ratio of $A:B$ is $2:3$, find the ratio of $B:C$.

(ii) In the parallelogram, find $\angle A$ and $\angle B$ if $\angle L_1$ and $\angle L_2$ are given.

9. Given $\cos^2 \theta = \cos \theta$.

(ii) Given $\sin 60^\circ \times \cos 30^\circ + \cos 60^\circ \times \sin 30^\circ$, find the result.

(iii) If $\tan \alpha = \frac{5}{12}$ and $\cot \alpha \times \cosec \alpha$, find the result.

10. Given $C = 60^\circ$ and $\angle L_1 = 60^\circ$.

(i) Find $\angle L_2$.

(ii) If $\angle L_1$ and $\angle L_2$ are given, find $\angle L_3$.

(iii) If $\angle L_1$ and $\angle L_2$ are given, find $\angle L_3$.

(iv) If $\angle L_1 = 24$, find $\angle L_2$ and $\angle L_3$.

(v) If $\angle L_1 = 216$, find $\angle L_2$ and $\angle L_3$.