

Maharashtra State Board

Class VI Mathematics

Board Paper 2

Time: 2 hr 30 min

Total Marks: 60

Note:

1. All questions are compulsory.
2. Use of calculator is not allowed.

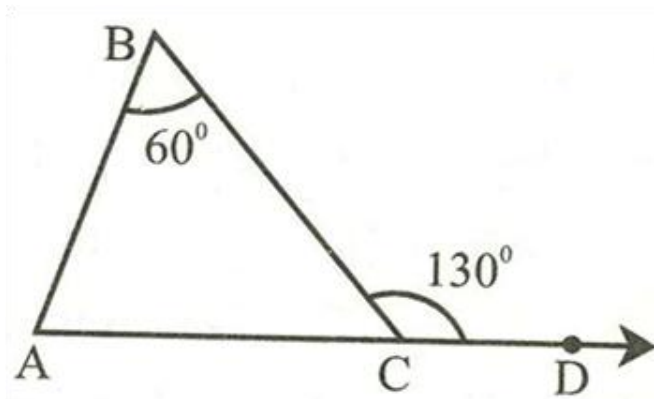
Q1. Solve the following:

[12 × 1 = 12]

1. Classify the numbers given below into numbers to the left of zero and to the right of zero on the number line.
-9, +5, -28, -100, +81, -4, -1, +1, +72, -48, +65, -95
2. For the equation $6 = k - 2$, what is the value of k ?
3. How many exterior angles does a triangle have in all?
4. Convert the fraction $\frac{7}{20}$ into percentage.
5. If the diameter of the circle is 5.6 cm, what is the length of its radius?
6. Find the difference between the magnitudes of the two numbers: -7 and $+9$.
7. $\triangle PQR$ is an isosceles triangle, $PQ = 7$ cm, $QR = 6$ cm. What can be the possible measures of side PR ?
8. What is the sum of $15x$ and $7y$?
9. The length and breadth of a rectangle are 12 cm and 10 cm respectively. Find its area.
10. The side of a cube is 10 cm. What is its volume?
11. $-16 - (-9) = \underline{\hspace{2cm}}$
12. Write the coefficient and variable in the algebraic term $-5b^3$.

Q2. Solve the following:**[8 × 2 = 16]**

1. What would it cost to paint a wall 5 m long and 3 m high if the cost of painting one square metre is Rs. 15?
2. Calculate 5% of 60.
3. If $a = 3$, $b = 4$ and $c = -2$, find the value of expression $b^2 + a^2 - c^2$.
4. In ΔABC , $m\angle ABC = 110^\circ$, side $AB = 5$ cm and $BC = 7$ cm.
From the description above, write the type of ΔABC with a suitable reason.
5. Simplify:
 $(-5) \times [-13 + 10]$
6. The measure of the exterior angle $\angle BCD$ of ΔABC is 130° , $m\angle ABC = 60^\circ$.
Find the measure of $\angle BAC$.



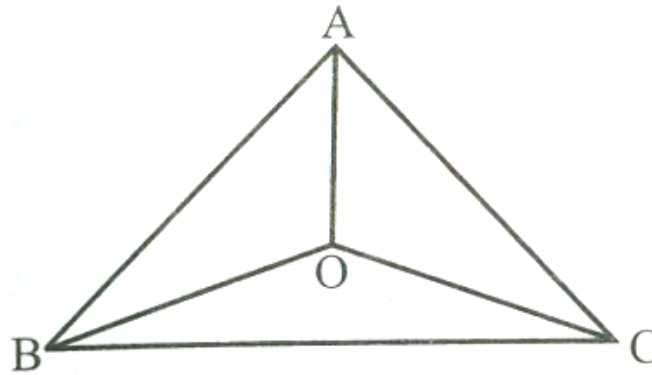
7. If a water tank is of length 5 m, breadth 3 m and height 1 m, what is its volume?
8. Draw a circle with radius 45 mm. What is the diameter of this circle?

Q3. Solve the following [Any five]:**[5 × 3 = 15]**

1. The interest on Rs. 15,000 after 2 years at a rate of 11 p.c.p.a. is Rs. 3,300. What will be the interest on the same principal at the same rate after 6 years?
2. Find the diameter of the circle.
 - (i) If radius = 12.9 cm
 - (ii) If radius = 0.6 m
 - (iii) If radius = 8.5 cm

3. Shamita wants to change the tiles of her room which is 25 m long and 22 m wide. She wants to use square tiles whose each side measures 1 m. How many tiles will she need?

4. Look at the figure and answer the following questions:



- (i) Name all the triangles in the figure.
- (ii) Name all the triangles having the vertex O.
- (iii) Name all the triangles having the vertex A.

5. Add $2p + 3q + 4c$ and $4q - 5p$ in horizontal arrangement.

6. If all three angles of a triangle are equal then what is the measure of each angle?

7. Draw a line AB. Take any point C outside the line. Draw a perpendicular to line AB through point C using the compass.

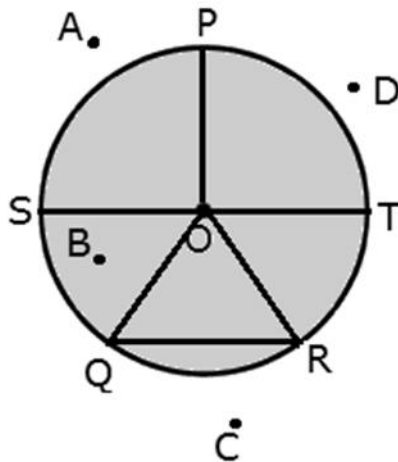
Q4. Solve the following [Any three]:

[3 × 4 =12]

1. The numbers of different types of books available in a library are shown in the table below. Draw a corresponding bar graph. Write the numbers 0, 25, 50, 75, ... at 1 cm intervals on the Y-axis.

Type of books	Number of books
Story books	250
Novels	200
Plays	150
Poetry	100

2. Look at the given figure and answer the following:



- (i) Name the points which are in the exterior and the interior of the circle.
- (ii) Name the radii of the circle.
- (iii) Name the diameter of the circle.
- (iv) Name the chords of the circle.

3. A wall of length 10 m was to be built across an open ground. The height of the wall is 4 m and thickness of the wall is 24 cm. If this wall is to be built up with bricks whose dimensions are 24 cm × 12 cm × 8 cm, how many bricks would be required?
4. What will be the interest for 2 years on Rs. 20,000 principal at the rate of 10 p.c.p.a?
5. Draw angle measuring 146°. Draw the bisector of this angle.

Q5. Solve the following [Any one]:

[1 × 5 = 5]

1. The average sea temperature for Mumbai over a year is shown in the table below. Draw a corresponding bar graph.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Sea Temperature (°C)	25°	25°	26°	27°	29°	29°	29°	28°	28°	29°	28°	26°

2. Use the properties of an equality to solve the following equations:

(i) $\frac{y}{5} = 12$

(ii) $8 = 3u$