

# MATHEMATICS

**Time: 2 Hrs**

**I. Choose the correct answer:**

$$5 \times 1 = 5$$

- $(6) - (-3)$  \_\_\_\_\_  
a) 3                                      b) 9                                      c)  $-9$
- Write the fraction form of 0.3 \_\_\_\_\_  
a)  $\frac{3}{10}$                                       b)  $\frac{3}{100}$                                       c)  $\frac{3}{20}$
- The circumference of a circle of radius 1 unit is \_\_\_\_\_.  
a)  $2\pi$  units                                      b)  $\pi$  units                                      c) 1 unit
- The place value of 4 in 12.034 is \_\_\_\_\_.  
a) Tenths                                      b) Hundreds                                      c) Thousandths
- The ratio of 50 paise to 2 rupees is \_\_\_\_\_.  
a) 1 : 4                                      b) 50 : 2                                      c) 1 : 2

## II. Fill in the blanks:

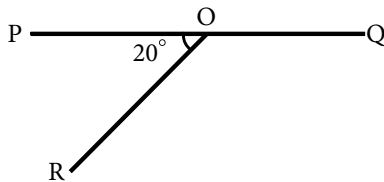
$$5 \times 1 = 5$$

1. If two lines intersect, the vertically opposite angles are \_\_\_\_\_.
2. Area of circle of radius ' $r$ ' is = \_\_\_\_\_ square units
3. The sum of any integer and its additive inverse is always \_\_\_\_\_
4. Degree of constant is \_\_\_\_\_.
5. The sum of a number and its additive inverse is \_\_\_\_\_

**III. Do as directed: (Any 10)**

**10 x 2 = 20**

1. Can a triangle have the angles as  $65^\circ$ ,  $74^\circ$  and  $66^\circ$ ? Justify your answer.
2. Find the product :  $(-18) \times (+15)$
3. Use distributive property and find the product :  $998 \times 102$
4. Evaluate the quotient:  $162 \div (-9)$
5. A submarine was situated 750 feet below sea level. If it ascends 250 feet, what is its new position?
6. What is the measure of  $\angle ROQ$ ?

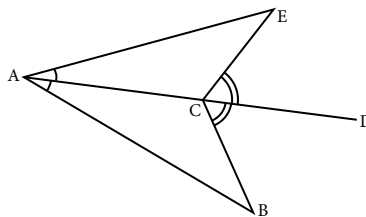


7. Find the circumference of a carrom-board coin whose radius is  $1.58 \text{ cm}$ .
8. A wire bent in the form of a square encloses an area  $225 \text{ cm}^2$ . If the same wire is bent in the form of a circle, find the area enclosed. Which area is greater? ( $\pi = 3.14$ )
9. During the mango season 65 mangoes were plucked from a tree. 2 mangoes were not good for distribution. The rest were shared equally amongst 7 people. How many mangoes did each person receive?
10. In a triangle, if the second angle is 2 times the first angle and the third angle is 3 times the first angle, find the angles of the triangle.
11. Mrs. Kumar bought two pairs of gold studs weighing  $7.52 \text{ gms}$  and  $8.15 \text{ gms}$ . Which one has more gold in it?
12. If a car travels  $323.75 \text{ km}$  with 9.25 litres of petrol, what distance does it cover with 1 litre of petrol?
13. Solve:  $8x + 40 = 3x + 25$
14. The ratio of radii of two circles is 4:5. Find the ratio of their areas.
15. If the cost of 12 pencils is ₹ 60, find the cost of 5 pencils.

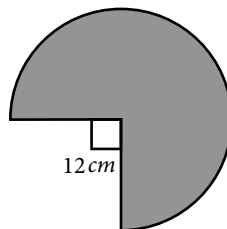
IV. Do as directed: (Any 6)

6 x 5 = 30

1. In a competitive examination negative marks of 2 are awarded for each wrong answer and 4 marks for every correct answer. If Neerav gets 15 correct answers and 5 wrong answers and Rajan gets 14 correct answers and no wrong answer, who gets more marks and by how much?
2. A train travelling at the rate of  $48 \text{ km/hr}$  reaches its destination in 45 hours. If the train has to reach the destination in 36 hours, what will be its average speed?
3. A pair of gold earrings weighs  $152.65 \text{ mg}$ . Find the weight of 18 such pairs. The jeweller made these earrings out of a gold coin weighing 4 g. Find the weight of gold remaining.
4. If the sum of three consecutive numbers is 72, what is the largest number?
5. In a right-angled triangle, the two acute angles are  $(x + 8)^\circ$  and  $(2x - 5)^\circ$ . Find the angles of the triangle.
6. Given that AD bisects  $\angle EAB$  and  $\angle ECB$ , identify the triangles that are congruent. Give reasons. Write the corresponding parts of the congruent triangles.



7. The diagram shows three-quarters of a circle of radius  $12 \text{ cm}$ . Find the perimeter of the shape. ( $\pi = 3.14$ )



8. A square lawn has an area  $900 \text{ m}^2$ . A pathway of width  $4 \text{ m}$  is constructed all around the lawn. The entire area is fenced at the cost of ₹ 25 per meter. Find the cost of fencing the area.