

**Goa Board**  
**Class VII Mathematics**  
**Sample Paper - 3**

**Time: 3 hours**

**Total Marks: 90**

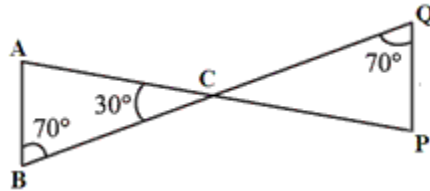
**General Instructions:**

1. All questions are **compulsory**.
2. The question paper consists of **38** questions and it is divided into **four sections: A, B, C and D**.
3. **Section A** comprises of **12** questions carrying 1 mark each.
4. **Section B** comprises of **8** questions carrying 2 marks each.
5. **Section C** comprises of **10** questions carrying 3 marks each.
6. **Section D** comprises of **8** questions carrying 4 marks each.
7. Question numbers **1 to 12** in **Section A** are multiple choice questions where you are to select **one** correct option out of the given four.

**Section A**  
**(Questions 1 to 12 carry 1 mark each)**

1. In the adjoining figure, if  $AB = PQ$  and  $BC = CQ$ , then find the measure of angle  $CPQ$ .

- A.  $80^\circ$
- B.  $90^\circ$
- C.  $30^\circ$
- D.  $60^\circ$



2.  $-5 + 9 + (-5) + (-10) + (1)$  is equal to

- A. 13
- B. -13
- C. -10
- D. 10

3.  $0.2 \times 0.2 = \underline{\hspace{2cm}}$

- A. 0.4
- B. 0.04
- C. 0.004
- D. 4.0

4. If A is the area of a triangle and H is the height, then the corresponding base is given by:

A.  $\text{Base} = \frac{3A}{H}$

B.  $\text{Base} = \frac{A}{H}$

C.  $\text{Base} = \frac{2A}{H}$

D.  $\text{Base} = \frac{2H}{A}$

5. The mode of following data is as shown below:

14, 11, 12, 13, 11, 12, 11

A. 14

B. 11

C. 12

D. 13

6. The linear equation  $\frac{p}{3} = q$  can be written in statement form as

A. 3 times p is q

B. One-third of p is q

C. q times p is 3

D. One-ninth of q is p

7. In a class of 40 students, 20% are selected for a trip to Goa. Find the number of students going for the trip.

A. 20

B. 8

C. 4

D. 12

8. Addition of  $-4x$  and  $6x$  gives the result:

A.  $-2x$

B.  $2x$

C.  $-24x$

D.  $5x$

9. Simplify:  $\frac{3^2 \times 5^3 \times t^7}{15^2 \times t^4}$
- A.  $5 \times t^3$   
 B.  $5 \times t^4$   
 C.  $3 \times t^3$   
 D.  $3 \times t^5$
10. A 2D skeleton outline used to make a 3D shape is called which of the terms listed below?
- A. Net  
 B. Sketch  
 C. Outline  
 D. Border
11. Which of the following is not a factor of any term of the algebraic expression  $17x^2y - 12xy + 13y^3 - 7xyz$ ?
- A. 2  
 B.  $x^2$   
 C.  $y^2$   
 D.  $13x^2y$
12. The revenue of JMF Company decreases from Rs. 30000 to Rs. 27000. What is the percentage decrease?
- A. 10%  
 B. 11.11%  
 C. 12%  
 D. 8%

### Section B

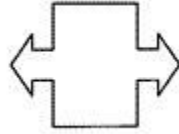
(Questions 13 to 20 carry 2 marks each)

13. Write the linear equation for the following statement:  
 '5 added to three-fifth of a number gives  $\frac{14}{3}$ '. Hence, find the number.
14. If 26% of a number is 65, then find the number.
15. Represent  $\frac{2}{5} \div \frac{3}{5}$  on a number line.
16. What will be the radius of a circular park having circumference equal to 396 m?

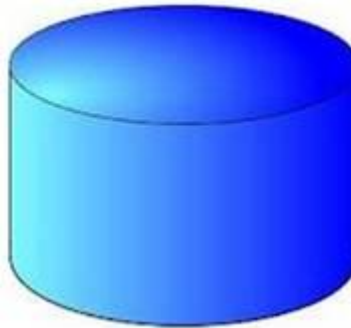
17. Simplify:

$$(3^5)^{11} \times (3^{15})^4 - (3^5)^{18} \times (3^5)^5$$

18. Draw and count the number of lines of symmetry for the following figure.



19. Name the cross-section that can be obtained after giving a vertical cut and horizontal cut to the following cylinder.

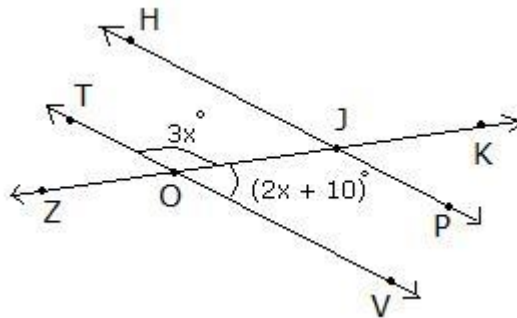


20. A farmer sold  $\frac{3}{5}$  of his  $56\frac{1}{2}$  tons of hay. How many tons of hay did he sell?

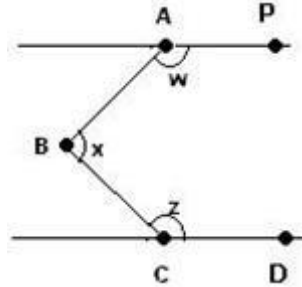
### Section C

(Questions 21 to 30 carry 3 marks each)

21. Find the value of  $x$  in the given figure.



22. In the figure below, AP is parallel to CD. Angle PAB ( $w$ ) is equal to  $135^\circ$  and angle DCB ( $z$ ) is equal to  $147^\circ$ . Find angle ABC.

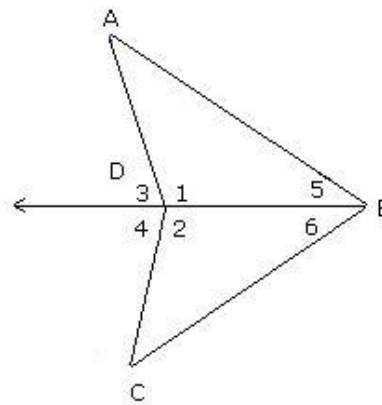


23. What number must be multiplied by  $-12\frac{2}{3}$  so that the product is 56?
24. A number is increased by 20% and then decreased by 20%. Find the net increase or decrease percent?
25. Construct triangle ABC where  $AB = 5$  cm,  $BC = 3$  cm and  $\angle ABC = 70^\circ$ .
26. A wire is in the shape of a square of side 22 cm. If the wire is re-bent into a circle, find its radius. Also, find the area of circle.
27. What should be added to  $x^2 + xy + y^2$  to obtain  $2x^2 + 3xy$ ?
28. Find the circumference of a circular disc with diameter 9 cm.
29. Draw a number line and represent  $\frac{13}{5}$  and  $\frac{-13}{5}$  on it.
30. A shopkeeper sells one transistor for Rs. 840 at a gain of 20% and another for Rs. 960 at a loss of 4%. What is his total gain or loss percent?

**Section D**

**(Questions 31 to 38 carry 4 marks each)**

31. A bag has 12 balls coloured yellow, blue, green and red. The number of balls of each colour is the same. A ball is drawn from the bag. Calculate the probability of drawing a yellow ball, a blue ball, a green ball and a red ball.
32. Given below are two triangles ABD and CBD.  $AD = CD$  and  $\angle 3 = \angle 4$ . Prove that DB bisects  $\angle ABC$ .



33. The percentage profit earned by selling an article for Rs. 1920 is equal to the percentage loss incurred by selling the same article for Rs. 1280. At what price should the article be sold to make 25% profit?
34. A rectangular park is 38 m long and 15 m wide. A path 3.5 m wide is constructed outside the park. Find the outer perimeter of the path.
35. Draw a line  $l$ , take a point A above it. Construct a line through A and parallel to  $l$ .
36. Simplify and reduce to standard form:
- (a)  $\frac{-15}{35} \times \left( \frac{27}{-63} \div \frac{81}{14} \right)$
- (b)  $\left( \frac{-2}{-72} \div \frac{4}{9} \right) \div \frac{-6}{14}$
37. Find the area of the following quadrilateral PQRS in which  $QM \perp PR$ ,  $SN \perp PR$ ,  $PR = 20$  cm,  $QM = 3$  cm and  $SN = 2$  cm.
38. From the sum of  $4x + y$  and  $3x - 5y$ , subtract the sum of  $-6x + 2y$  and  $7x - 5y$ . Give the final answer by substituting  $x = 3$  and  $y = -4$ .

