

**Goa Board**  
**Class VII Mathematics**  
**Sample Paper - 2**

**Time: 3 hours**

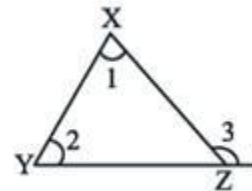
**Total Marks: 90**

**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)**

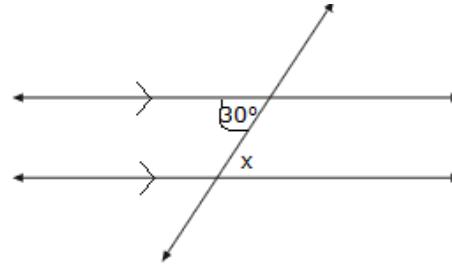
1. The integer  $-2 - (-5)$  can also be written as
  - A.  $-2 + (-5)$
  - B.  $-2 + 5$
  - C.  $2 - 5$
  - D.  $2 + 5$
2. In the following figure, the relation between the angles 1, 2 and 3 is
  - A.  $\angle 3 = \angle 1 - \angle 2$
  - B.  $\angle 3 + \angle 1 = \angle 2$
  - C.  $\angle 3 = \angle 1 + \angle 2$
  - D.  $\angle 3 + \angle 2 = \angle 1$
3. Mean of 11, 10, 12, 12, 9, 10, 14, 12 and 9 is \_\_\_\_\_.
  - A. 20
  - B. 10
  - C. 11
  - D. 14



4. Five added to the one-third of a number gives twice the number. The number is
- 3
  - 4
  - 5
  - 6

5. In the following figure, the measure of angle x is given by which of the following angles?

- $60^\circ$
- $150^\circ$
- $30^\circ$
- $45^\circ$



6. 56% is equal to the decimal number:

- 5.60
- 0.56
- 56.0
- 0.056

7. Which of the following rational numbers is in the standard form?

- $\frac{15}{-63}$
- $\frac{36}{25}$
- $\frac{-8}{30}$
- $\frac{24}{33}$

8. A triangle has \_\_\_\_\_ components.

- 3
- 4
- 5
- 6

9. Name the solid, whose net is shown below:

- Cylinder
- Cone
- Sphere
- Rectangle

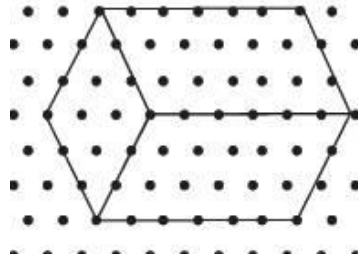


10.  $\frac{16}{25}$  in exponential form is

- A.  $\frac{4^3}{5^2}$
- B.  $\frac{4^2}{5^3}$
- C.  $\frac{2^4}{5^2}$
- D.  $\frac{2^3}{5^2}$

11. The length of the following cuboid is

- A. 3 units
- B. 2 units
- C. 6 units
- D. 4 units



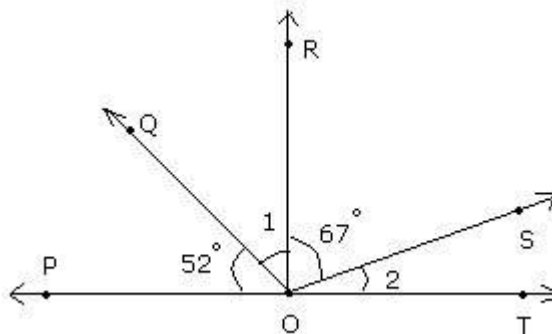
12. Rhombus has a perimeter of 28 cm. Then what will be the length of its side?

- A. 7 cm
- B. 4 cm
- C. 16 cm
- D. 14 cm

### Section B

(Questions 13 to 20 carry 2 marks each)

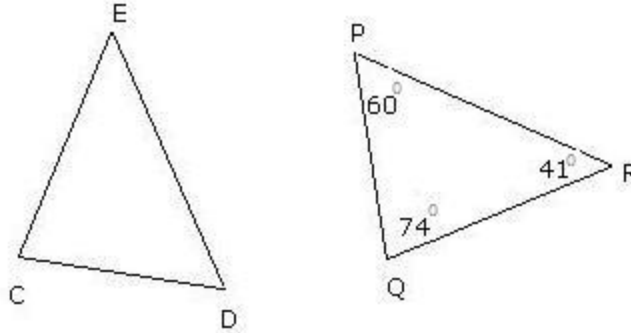
13. If RO is the perpendicular to PT, then find the measure of angles 1 and 2 in the figure below:



14. If  $\frac{2x-1}{3} = \frac{x+2}{2}$ , then find the value of x.

15. It takes  $\frac{2}{5}$  yards of material to make a shirt. How many yards of material will be required to make 6 shirts?

16. In the figure below,  $\triangle CDE \cong \triangle QPR$ . What is  $m\angle D$ ?



17. Rahul has got 40 marks out of 50 in his math exam, while Rohan has got 75 out of 100. Who scored more marks?

18. Add the following expressions:

$6m - 7n - 5p$ ,  $-4m - 9n + 6p$  and  $-4m - 9n + 6p$

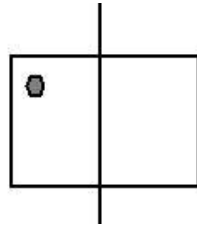
19. Write the following in expanded form:

i)  $\left(\frac{-7}{9}\right)^3$

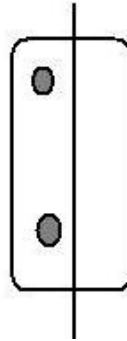
ii)  $\left(\frac{5}{8}\right)^6$

20. Given the line of symmetry, find the other hole(s) in the following figures.

(i)



(ii)

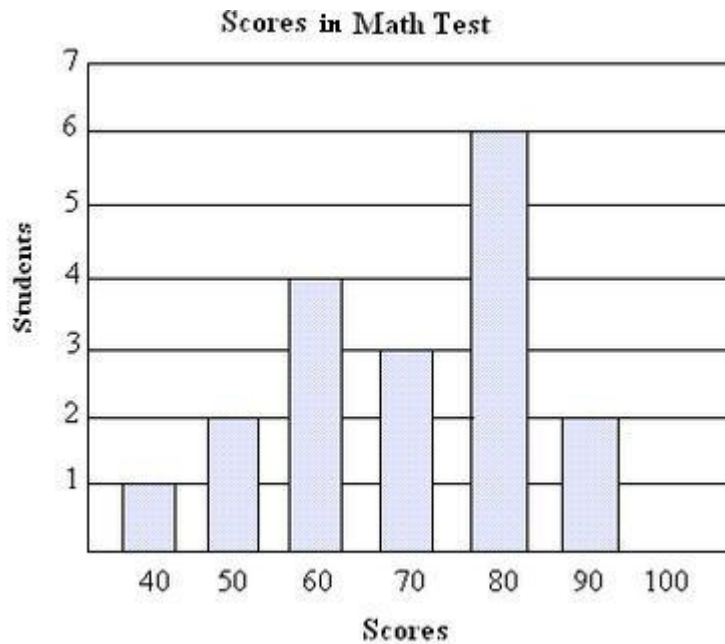


**Section C**

**(Questions 21 to 30 carry 3 marks each)**

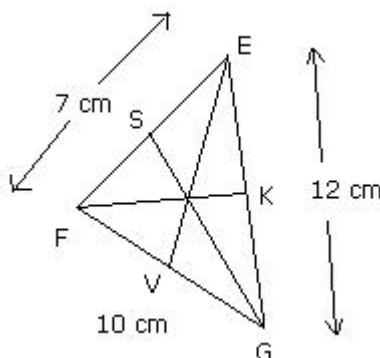
21. Sumitra has Rs. 34 in denominations of 50 paise and 25 paise coins. If the number of 25 paise coins is twice the number of 50 paise coins, then how many coins of each type does she have in all?

22. Use the given bar graph to answer the following questions:

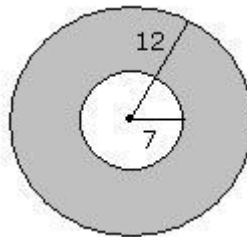


- (1) How many students got 80 marks in the test?
- (2) How many students got 60 marks in the test?
- (3) How many students took the test?

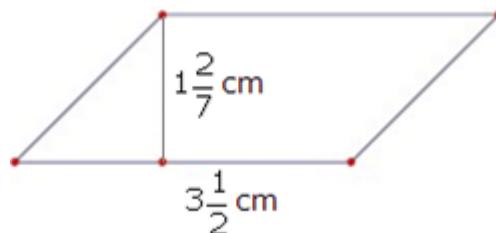
23. In the figure below, EV, FK and GS are the medians of triangle EFG. Find the values of FS, KG and FV.



24. If  $\frac{1}{2}$  of  $\frac{-3}{4}$  of a number is 6, then what is the number?
25. In a class of 120 students, 40 are girls. Find the following ratios.
- Ratio of boys to girls
  - Ratio of boys to total students
  - Ratio of girls to total students
26. Draw a right-angled triangle in which the hypotenuse is of length 5 cm and one side of length 3 cm. Also measure the length of third side.
27. In the figure given below, a circle is inscribed inside another circle. The radius of the outer circle is 12 cm and that of the inner circle is 7 cm. Find the area of the shaded portion between the circles.



28. A poultry farm produces 600 eggs every week and delivers them equally to 10 shops. The shopkeepers charge Rs. 5 for every good egg but they have to give Rs. 2 to the customer if the egg comes out to be rotten. A shopkeeper could only earn Rs. 276 despite selling all the eggs. How many eggs were rotten?
29. Find the area of the given parallelogram.



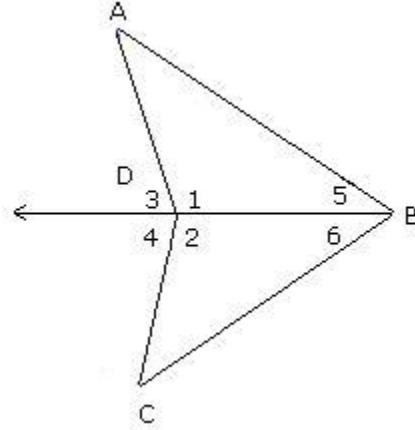
30. The given data is arranged in ascending order. The sum of mode and median of the given data is 15. Find the value of  $y$ .
- $y - 1, y - 1, y + 1, y + 4, 2y + 1, 3y, 4y$

**Section D**

(Questions 31 to 38 carry 4 marks each)

31. Simplify:  $5.75 - \frac{3}{7} \times 15\frac{3}{4} + 2\frac{2}{35} \div 1.44$

32. Given are two triangles ABD and CBD. AD = CD and  $\angle 3 = \angle 4$ . Prove that DB bisects  $\angle ABC$ .



33. Simplify the given expression. Give the answer in exponential form.

$$\left[(-5)^2\right]^4 \times \frac{1}{\left[(-5)^2\right]^3}$$

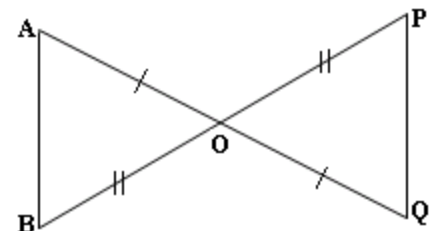
34. Given data shows performance of two unit tests.

	English	Hindi	Maths	Science	S.Science
Term I	70	60	87	60	60
Term II	78	77	60	70	60

Show the data in a double bar graph.

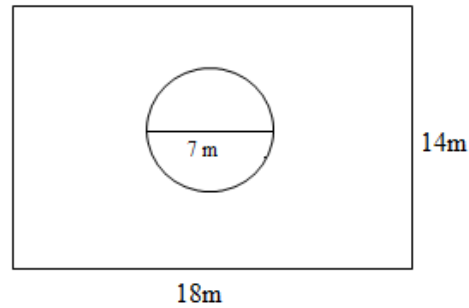
35. In the figure, O is the midpoint of AQ and BP.

- Is  $\triangle OAB \cong \triangle OQP$ ?
- Which pairs of matching parts have you used to answer (i).
- Is  $AB = PQ$ ?
- Is  $\triangle OAB \cong \triangle OPQ$ ?





36. The given figure represents a rectangular lawn with a circular fountain in the centre. The dimensions of the lawn are  $18\text{ m} \times 14\text{ m}$  and the diameter of the fountain is  $7\text{ m}$ . Find the area of the lawn excluding the flower bed area.



37. A chemist has several beakers full of different liquids that he will use to make a solution. The chemist records the amount of liquid in each beaker:  $640.6$  milliliters,  $908.44$  milliliters,  $1.5553$  liters, and  $0.6$  liters. How many milliliters of solution will the chemist have after he mixes the liquids in the beakers?
38. 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?