
MATHEMATICS MOCK TEST

Class: VIII | Set: 8

Time: 1 Hour 30 Minutes | Written Marks: 35 | Viva: 5 | Total: 40 Marks

NAME: _____

ROLL NO: _____

SECTION A

(1 Mark Each)

1. If x and y are inversely proportional and $xy = 100$, find y when $x = 25$.
2. How many vertices does a cube have?
3. If A can finish a work in 12 days, what fraction of the work is completed in 4 days?
4. Find the area of a rhombus with diagonals of 10 cm and 8.2 cm.
5. Find the volume of a cylinder with base radius 7 cm and height 10 cm.

SECTION B

(2 Marks Each)

6. 15 workers can build a wall in 48 hours. How many workers will be required to do the same work in 30 hours?
7. A car travels 14 km in 25 minutes. What distance can it travel in 5 hours if the speed remains constant?
8. Find the height of a cuboid whose volume is 275 cm^3 and base area is 25 cm^2 .
9. The area of a trapezium is 105 cm^2 and its height is 7 cm. If one of the parallel sides is 10 cm, find the other side.
10. Verify Euler's formula for a Pentagonal Pyramid (Faces = 6, Vertices = 6, Edges = 10).

SECTION C

(3 Marks Each)

11. A machine in a soft drink factory fills 840 bottles in 6 hours. How many bottles will it fill in 5 hours?
12. Tap A can fill a tank in 10 hours and Tap B can fill it in 12 hours. Tap C can empty the full tank in 20 hours. If all three are opened together, how much time is needed to fill the tank?
13. Find the area of a polygon $ABCDE$ where diagonal $AD = 8 \text{ cm}$, and the perpendiculars from B, C , and E onto AD are $BF = 2 \text{ cm}$, $CG = 3 \text{ cm}$, and $EH = 2.5 \text{ cm}$ respectively.
14. A rectangular piece of paper $11 \text{ cm} \times 4 \text{ cm}$ is folded without overlapping to make a cylinder of height 4 cm. Find the volume of the cylinder.

SECTION D

(4 Marks Each - Case Study)

Case Study 1: The Pipeline Installation

A plumbing company is hired to install a new water pipeline. They calculate that 12 workers can finish the task in 15 days.

- (i) If the company wants to finish the work in 10 days, how many more workers should be employed? (2 Marks)
- (ii) If 3 workers leave the job after 5 days, how many more days will the remaining workers take to finish the work? (2 Marks)

Case Study 2: Fuel Efficiency and Travel

A truck travels 448 km on 28 litres of diesel.

- (i) How much diesel is required to travel 128 km? (2 Marks)
- (ii) If the price of diesel is ₹90 per litre, find the total cost of fuel required for a journey of 1000 km. (2 Marks)

VIVA VOCE

(5 Marks)

- **Proportion:** Define Direct Proportion with a real-life example.
- **Work:** If person A takes 5 days and person B takes 10 days for a task, who is more efficient?
- **Solids:** What is a regular polyhedron? Name the one that has 4 faces.
- **Mensuration:** What is the formula for the Total Surface Area of a Cylinder?
- **Geometry:** What is the difference between a prism and a pyramid?