

Max. Marks: 50

MATHEMATICS

Time: 2 Hrs

Name of the School: _____	Name of the Student: _____
Place: _____	Roll No.: _____

I. Choose the correct answer:

$$5 \times 1 = 5$$

- _____ is data collected by someone other than the user, for individual purposes.
 - Primary data
 - Secondary data
 - Frequency table
- $\frac{3}{10}$ is _____.
 - 3 %
 - 30 %
 - 300 %
- Selling Price – Cost price = _____
 - Loss
 - Discount
 - Profit
- The point of concurrence of the three medians in a triangle is called its _____.
 - Circumcentre
 - Orthocentre
 - Centroid
- Sum of angles of triangle is _____.
 - 180°
 - 90°
 - 360°

$$5 \times 1 = 5$$

1. The cost price of an article sold for ₹ 625 is _____ if the profit is ₹ 175.
2. At 60 km/hr, a distance is covered in 4 hours. The same distance is covered in _____ hours at a speed of 40 km/hr.
3. Distance – Time is an example for _____ proportion.
4. The medians of a triangle cross each others at _____
5. The centroid of a triangle divides each medians in the ratio _____.

5 x 1 = 5

- | | | |
|-----------------|---|---------------------------|
| 1. Loss % | - | Income earned |
| 2. Discount | - | Distance / Time |
| 3. Direct Tax | - | $\frac{L}{CP} \times 100$ |
| 4. Indirect Tax | - | MP – SP |
| 5. Speed | - | GST |

$$5 \times 1 = 5$$

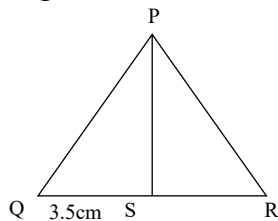
1. The incentre is equidistant from all the vertices of a triangle.
2. x and y are said to vary directly if $\frac{x}{y} = k$.
3. If $(3, 4, 5)$ is a Pythagorean triplet, then $(9, 12, 15)$ is also a Pythagorean triplet.
4. A right triangle can be constructed with the measurements 5 cm, 9 cm and 11 cm.
5. The circumcenter is equidistant from every vertex.

PART – II

V. Answer any 5 of the following:

5 x 2 = 10

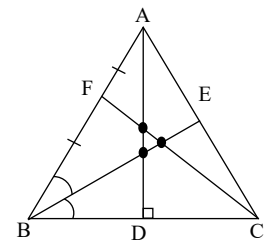
1. A sum of money becomes ₹ 18000 in 2 years and ₹ 40500 in 4 years on compound interest. Find the sum.
2. A train passes through a telegraph post in 9 seconds moving at a speed of 54 km per hour. What is the length of the train?
3. In a right-angled triangle, if one angle is 47° , find the other angle.
4. P, Q, R are the measures of exterior angles of ΔPQR . Find $P + Q + R$.
5. The cost price of an article is ₹ 4500. It is marked up by 18%. A discount of 10% is offered on the marked price. What is the selling price of the article?
6. If 48 men working 7 hours a day can do a work in 24 days, then in how many days will 28 men working 8 hours a day complete the same work.
7. In triangle PQR, PS is a median and $QS = 3.5$ cm then find QR?



8. Fill in the blanks:

In the triangle ABC,

- i. The angle bisector is _____
- ii. The altitude is _____
- iii. The median is _____

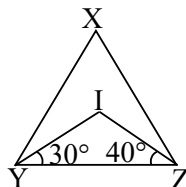


PART – III

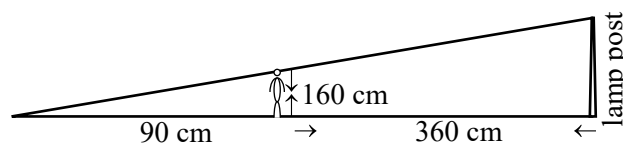
VI. Answer any 5 of the following:

5 x 3 = 15

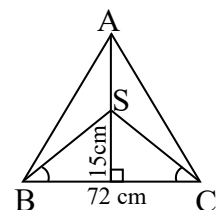
1. A soap factory produces 9600 soaps in 6 days working 15 hours a day. In how many days will it produce 14400 soaps working 3 hours more in a day?
2. A and B can do a piece of work in 12 days. While B and C can do it in 15 days whereas A and C can do it in 20 days. How long would each take to do the same work?
3. If I is the incentre of ΔXYZ , $\angle IYZ = 30^\circ$ and $\angle IYZ = 40^\circ$ find $\angle YXZ$



4. A fruit seller bought 20 kg of grapes for ₹ 1500. He sold 12.5kg at ₹ 80 per kg and 5 kg at ₹ 60 per kg. He had to discard the balance because they were spoiled. What was his overall profit/loss and profit/loss percentage?
5. What is the rate of discount in a 'Buy 3 get 2 free' sale?
6. A girl 160 cm tall is standing 360 cm from a lamp post at night. Her shadow is 90 cm long. Find the height of the lamp post.



7. In ΔABC , S is the circumcentre, $BC = 72$ cm and $DS = 15$ cm. Find the radius of its circumcircle.



PART – IV

VII. Answer any 1 of the following:

1 x 5 = 5

1. Construct the quadrilateral, given that $PQ = 5$ cm, $QR = 5.1$ cm, $RS = 5.8$ cm, $PS = 4$ cm and $\angle P = 110^\circ$
2. Construct a square LAMP of side 4 cm. Also find its area.