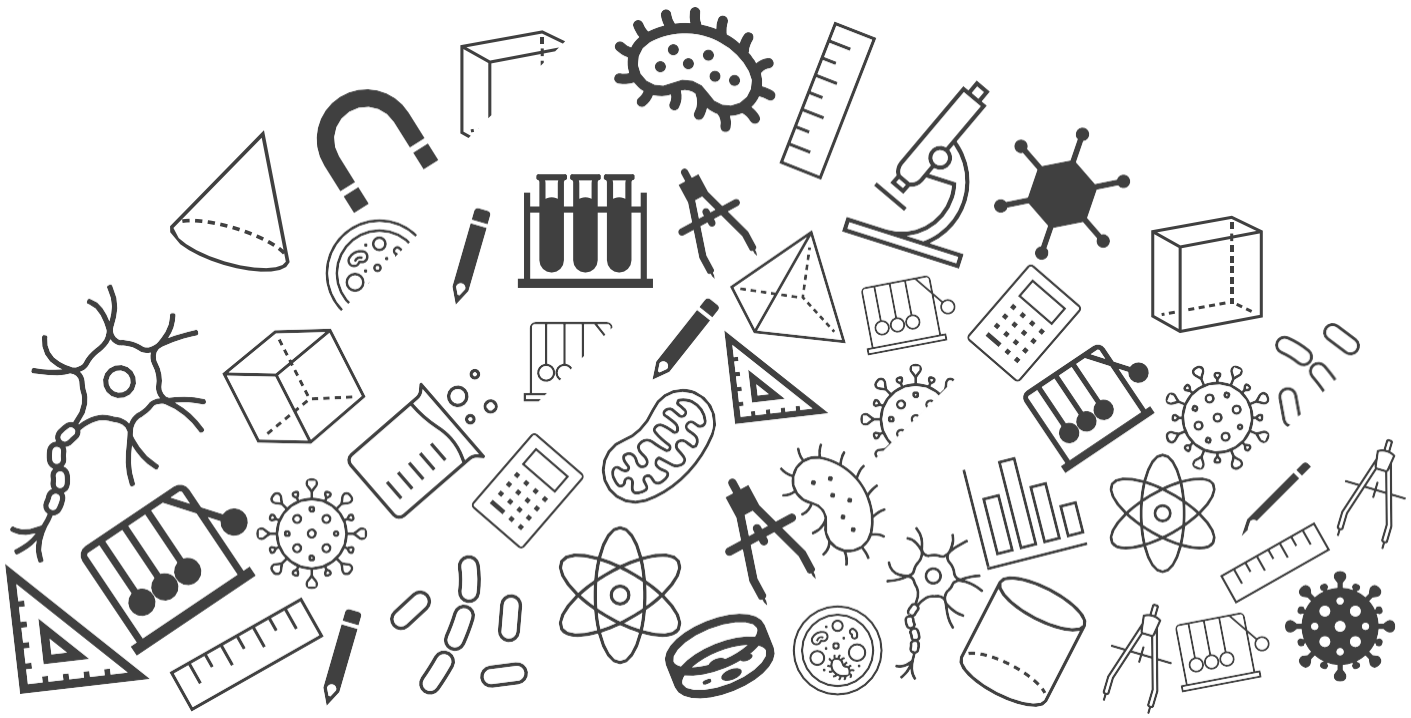
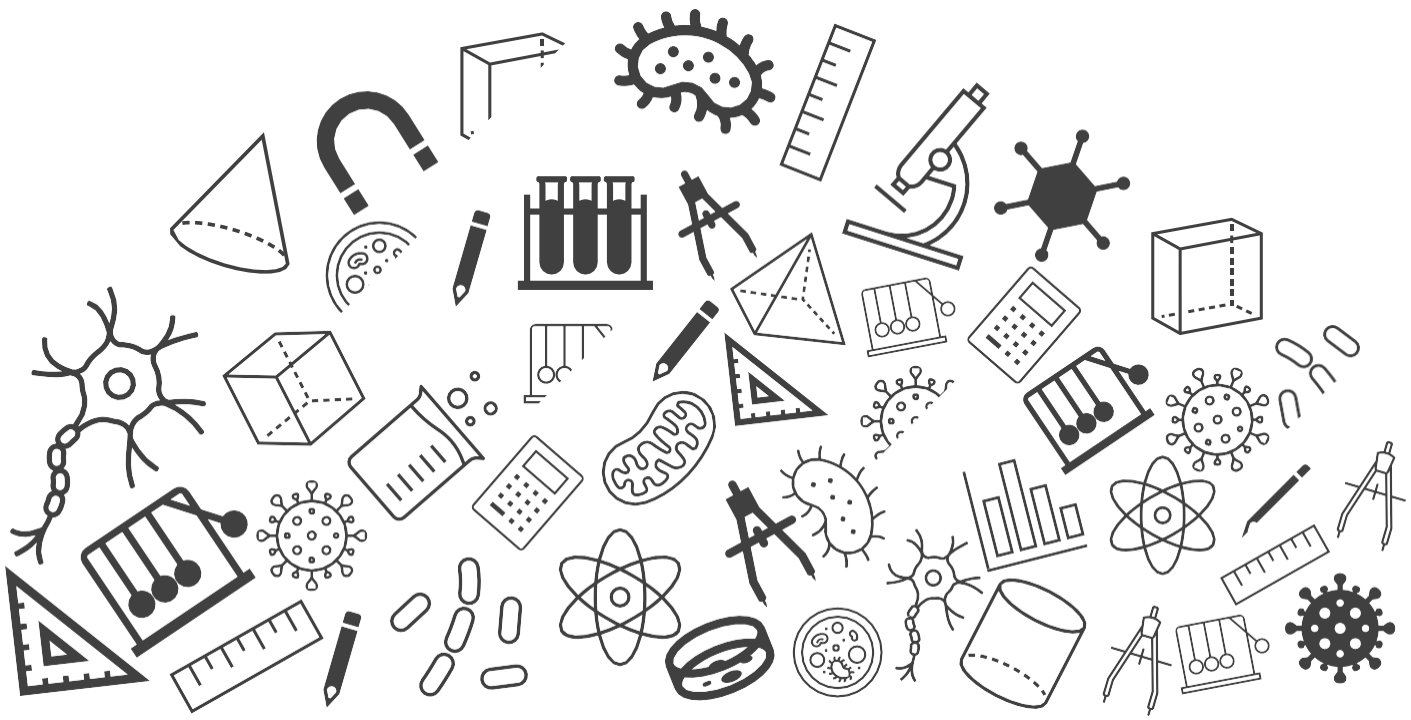
Grade 07: Maths
Exam Important Questions



Comparing Quantities



Comparing Quantities

Topic : Exam Important Questions

1. If ₹250 is to be divided amongst Ravi, Raju and Roy, so that Ravi gets two parts, Raju three parts and Roy five parts. How much money will each get? What will it be in percentages?
[5 marks]

Given: ₹ 250 is divided among Ravi, Raju and Roy.
According to question, Ravi gets 2 parts, Raju gets 3 parts and Roy gets 5 parts.
The parts which the three boys are getting can be written in terms of ratios as $2 : 3 : 5$
Total of the parts is $2 + 3 + 5 = 10$
[0.5 mark]

Amount received by Ravi:
$\Rightarrow \frac{2}{10} \times ₹250 = ₹50$
and percentage: $= \frac{2}{10} \times 100\% = 20\%$
[1.5 marks]

Amount received by Raju:
$\Rightarrow \frac{3}{10} \times ₹250 = ₹75$
and percentage: $= \frac{3}{10} \times 100\% = 30\%$
[1.5 marks]

Amount received by Roy:
$\Rightarrow \frac{5}{10} \times ₹250 = ₹125$
and percentage: $= \frac{5}{10} \times 100\% = 50\%$
[1.5 marks]

2. A man travelled 60 km by car and 240 km by train. Find what percent of the total journey did he travel by car and what percent by train?
[4 marks]

Distance covered by car $= 60$ km
Distance covered by train $= 240$ km
$\therefore$ Total journey $= 60$ km $+ 240$ km $= 300$ km

[0.5 mark]

Let $x\%$ of total journey is travelled by car.
Then, $x\%$ of $300 = 60$

$$\Rightarrow \frac{x}{100} \times 300 = 60$$
$$\Rightarrow x = \frac{60 \times 100}{300}$$
$$\Rightarrow x = 20\%$$

[1.5 marks]

Let $y\%$ of total journey is travelled by train.
Then, $y\%$ of $300 = 240$

$$\Rightarrow \frac{y}{100} \times 300 = 240$$
$$\Rightarrow y = \frac{240 \times 100}{300}$$
$$\Rightarrow y = 80\%$$

[1.5 marks]

Hence, 20% distance is travelled by car and 80% distance is travelled by train.

[0.5 mark]

Comparing Quantities

3. A shopkeeper sells a washing machine for ₹27,000. He loses 20% in the bargain. What was the price at which he bought it? [3 marks]

S.P. of the washing machine = ₹27,000
Loss = 20%
C.P. of the washing machine = ?

Let the C.P. of the washing machine = ₹100
Loss = 20%
So, loss = $\frac{20}{100} \times$ 100 = ₹20 [1 mark]
S.P. of the washing machine = ₹100 − ₹20 = ₹80
[1 mark]

When S.P. is ₹80 then C.P. = ₹100
When S.P. is ₹1 then C.P. = $\frac{100}{80}$
When S.P. is ₹27,000 then C.P. = $\frac{100}{80} \times$ 27,000 = ₹33,750
[1 mark]

So, the C.P. of the washing machine = ₹33,750

4. The cost of a flower vase is ₹120. If the shopkeeper sells it at a loss of 10%, find the price at which it is sold.

- **A.** ₹150
- **B.** ₹100
- **C.** ₹108
- **D.** ₹66

Cost Price (C.P.) is ₹120 and the loss percentage is 10%.

Loss $= 10\%$ of the cost price $= 10\%$ of ₹$120 = \frac{10}{100} \times 120 =$ ₹12

S.P. $=$ C.P. $-$ Loss $= 120 - 12 =$ ₹108

Comparing Quantities

5. Out of 15,000 voters in a constituency, 60% voted. Find the percentage of voters who did not vote. Can you now find how many actually did not vote?
[2 marks]

Given: Total number of voters $= 15000$
Percentage of voters who voted $= 60\%$

Now,
Percentage of those who did not vote:
$\Rightarrow 100\% - 60\% = 40\%$

[0.5 mark]

Number of people who did not vote:
$\Rightarrow 40\%$ of $15000 = \frac{40}{100} \times 15000 = 6000$

Therefore, 6000 people did not vote.

[1.5 marks]

6. Nandini borrowed ₹550 from her friend at 8% per annum. She returned the amount after 6 months. How much did she pay?
[4 marks]

Given
Principal amount, $P =$ ₹550
Time period, $t =$ ½ year
Rate of interest, $r = 8\%$ p.a.

We know that simple interest = $\frac{P \times r \times t}{100}$
[1 mark]

On substituting these values in above equation we get

S.I. $= \frac{550 \times ½ \times 8}{100} =$ ₹22
[1.5 marks]

Total amount paid after ½ year = Principal amount + Interest
[0.5 mark]

= ₹550 + ₹22

= ₹572
[1 mark]

Comparing Quantities

7. Tanmay borrowed ₹9,000 for 2 years and paid an interest of ₹1,500. Find the rate of interest. [2 marks]

Principal amount (P) = ₹9,000
Interest = ₹1,500
Time = 2 years
Rate of interest (R) = ?

We know that
Simple Interest = $\frac{Principal \times Rate \times Time\ (years)}{100}$ [1 mark]
That is, 1500 = $\frac{9000 \times R \times 2}{100}$ [0.5 mark]

So, R = $\frac{1500 \times 100}{9000 \times 2}$ = $\frac{25}{3}$ = $8\frac{1}{3}$ [0.5 mark]

So, Rate of interest = $8\frac{1}{3}$%

So, the rate of interest is $8\frac{1}{3}$%.

8. A person took a loan of ₹50,000 from a bank at 3.5% rate of interest p.a. for 3 years. Find the amount that he will have to pay to the bank at the end of the third year. [4 marks]

Principal amount (P) = ₹50,000
Rate of interest (R) = 3.5%
Time = 3 years

We know that
Simple Interest = $\frac{Principal \times Rate \times Time(years)}{100}$ [1 mark]
Simple Interest = $\frac{50000 \times 3.5 \times 3}{100}$ = 5,250 [1 mark]

Now, Amount = Principal + Interest [1 mark]
So, Amount = ₹50,000 + ₹5,250 = ₹55,250 [1 mark]

So, the amount of ₹55,250 will have to be paid to the bank for the given principal at the given rate of interest and time.