A. Ratios

1. The ratio of the length and breadth of a rectangle is 7 : 4. If its perimeter is 132 cm, find the length and breadth.

2. A bag contains red, blue, and green marbles in the ratio 5 : 3 : 2. If there are 60 marbles in total, find how many of each colour are there.

3. Simplify the ratio 2.5 m : 50 cm.

4. Convert the ratio 45 minutes : 1.5 hours into the simplest form.

B. Proportion

1. Check whether the following ratios form a proportion:

   a) 8 : 12 and 10 : 15

   b) 9 : 27 and 6 : 18

2. If 7 kg of sugar costs ₹315, find the cost of 9 kg of sugar.

3. If 8 notebooks cost ₹96, how many notebooks can be bought for ₹180?

4. The ratio of the ages of A and B is 4 : 5. After 5 years, their ages will be in the ratio 5 : 6. Find their present ages.

C. Unitary Method

1. A car travels 360 km in 6 hours. How much distance will it cover in 9 hours at the same speed?

2. If 12 workers can finish a job in 8 days, how many days will 6 workers take to finish the same job?

3. A typist types 540 words in 9 minutes. How many words will he type in 15 minutes?

4. 5 pens cost ₹150. What will be the cost of 12 such pens?

D. Mixed Challenge

1. The scale of a map is 1 : 2,00,000. Find the actual distance between two towns if the distance on the map is 4 cm.

2. In a class, the ratio of boys to girls is 7 : 9. If there are 72 students in total, how many are boys?

3. 15 metres of cloth cost ₹450. Find the cost of 2.5 metres of the same cloth.

4. The ratio of the speed of two cars is 4 : 5. If the first car travels 160 km in 4 hours, find the speed of the second car.