CHAPTER 6

RATIO AND PROPORTION

More Questions for Practice

1. Express each of the following ratios in the *simplest form*:

   (a) $\dfrac{4}{15} : 1\dfrac{1}{6} : 1\dfrac{2}{3}$ (b) $2\dfrac{3}{4} : 2\dfrac{1}{2} : 1\dfrac{1}{6}$

2. (a) If $p : q = \dfrac{1}{2} : \dfrac{1}{3}$ and $q : r = \dfrac{1}{4} : \dfrac{1}{5}$, find $p : q : r$.

   (b) If $x : y = 1\dfrac{1}{3} : 1\dfrac{1}{2}$ and $y : z = \dfrac{1}{2} : \dfrac{1}{3}$, find $x : y : z$.

3. Divide ₹ 267 into three parts such that the first one is $\dfrac{4}{5}$ of the second and the ratio between the second and the third is 6 : 7.

4. In a family, the age of father is twice that of his son and the daughter's age is half that of her mother. If the ratio of father's age to mother's age is 4 : 3, find the ratio of daughter's age to son's age.

5. The ratio of William's to Ahmed's income is 3 : 4 and the ratio of their savings is 2 : 3. If the ratio of Ahmed's income to his savings is 8 : 3, find the ratio of William's income to his savings.

6. Divide ₹ 3017 among A, B, C in such a way that A gets double of what B gets and B gets double of what C gets.

7. There are 40 members on a Students' Council in a school and the ratio of the number of boys to the number of girls is 3 : 1. How many more girls should be added to the Council to make the ratio of boys to girls 3 : 2?

8. Express each of the following ratios in its simplest form:
   (a) 50 : 225   (b) 420 : 650
   (c) 15 hours : 1 day   (d) 2 m 40 cm : 1 m 44 cm
   (e) 1 h 45 min : 2 h 45 min   (f) 80 paise : ₹ 1.20

9. An estate is divided in the ratio 5 : 8. If the smaller part is ₹ 26000, how much is the larger part and how much is the total?

10. B is a point between A and C such that AB : BC is 17 : 3. If AC = 40 km, how much is (a) AB and (b) BC?

11. Divide ₹ 510 among three parts so that the first one is $\dfrac{2}{3}$ of the second and the ratio of second and third is 6 : 7.

12. ₹ 561 is to be divided among A, B, C in the ratio 2 : 4 : 5. How much will C get more than B?

13. Two numbers are in the ratio of 3 : 5. If 9 is subtracted from each, the ratio becomes 12 : 23. Find the smaller number.

14. If $\dfrac{1}{2}$ of A $= \dfrac{2}{5}$ of B $= \dfrac{1}{3}$ of C, then find A : B : C.

15. If 5 Euros are equal to 8 Singapore dollars. How many Singapore dollars are equivalent to 8 Euros?

16. Preeti drives 60 km in 80 minutes. If she drives at the same speed, how long will it take her to drive a distance of 80 km?

17. The ratio of incomes of A and B is 4 : 3 and ratio of their expenditures is 3 : 2. If each person saves ₹ 2500, then find their incomes and expenditures.

18. The sum of three numbers is 315. If the ratio between first and second is 2 : 3, and the ratio between second and third is 4 : 5, then find the second number.

ANSWERS

1. (*a*) 8 : 35 : 50   (*b*) 33 : 30 : 14   2. (*a*) 15 : 10 : 8   (*b*) 8 : 9 : 6   3. ₹ 72, ₹ 90, ₹ 105

4. 3 : 4   5. 3 : 1   6. ₹ 1724, ₹ 862, ₹ 431   7. 10

8. (*a*) 2 : 9   (*b*) 42 : 65   (*c*) 5 : 8   (*d*) 5 : 3   (*e*) 7 : 11   (*f*) 2 : 3

9. ₹ 41600, ₹ 67600   10. (*a*) 34 km   (*b*) 6 km   11. ₹ 120, ₹ 180, ₹ 210

12. ₹ 51   13. 33   14. 4 : 5 : 6   15. 12.8 Singapore dollars.

16. 106 minutes 40 seconds

17. Incomes—₹ 10,000 and ₹ 7500

Expenditures—₹ 7,500 and ₹ 5000.

18. 108.