7 Ratio and Proportion

Q1. **Express each of the following ratios in the simplest form:**

a. $\dfrac{1}{2} : \dfrac{2}{3} : \dfrac{3}{7}$ = _____ : _____ : _____

b. $2\dfrac{3}{7} : 1\dfrac{1}{5}$ = _____ : ____

Q2. **Ramesh has 7 kg of wheat grains in a sack. He makes 2 heaps of grains in the ratio 3 : 7. Find the quantity of wheat in each heap.**

Answer: Quantity of wheat in Bigger heap: _____ grams

Quantity of wheat in Smaller heap: _____ grams

Q3. **Arrange the following in ascending order:**

2:3, 7:12, 5:6; 1:18

_____ < _____ < _____ < _____

Q4. **The ratio of expenditure to income is 7 : 8. Find the savings if the expenditure is ₹14000.**

(Hint: Savings = Income – Expenditure)

Answer: _____

Q5. **The distance between Raman's house and his school is 7.2 km. After leaving home he got a message that school is closed due to heavy rains. If the ratio between the distance covered and the distance left to reach school is 2 : 7, how much distance will Raman have to cover to reach back home.**

Answer: _____

Q6. Find the value of x in the following proportions:

    a.   16 : x :: x : 9

        x = _____

    b.   36 : 42 :: x : 63

        x = _____

Q7. Find the fourth proportional of 16, 12 and 28.

    Answer: _____

Q8. If a : b = 6 : 7 and b : c = 3 : 5, find a : b : c.

    a : b : c = _____

Q9. Mrs. Kumar has written the following group of numbers on the board.

    (a) 2.1, 1.5, 6.3, 4.5

    (b) $\dfrac{1}{9}, \dfrac{2}{3}, \dfrac{2}{3}, 4$

        Rajesh says that both (a) and (b) are in proportion.

        Rajni says only (a) are in proportion.

        Find which student is correct.

    Answer: _____

Q10. ΔABC is divided into four small triangles of equal area. Find the following ratios

    a.   Ratio of the area of the bigger triangle to that of one smaller triangle   : _____

    b.   Ratio of the area of the bigger triangle to that of two smaller triangles   : _____

    c.   Ratio of the area of one smaller triangle to that of any other smaller triangle   : _____

    d.   Ratio of the area of one smaller triangle to that of the other three smaller triangles   : _____

Answers

1. a. 21 : 28 : 18; b. 85 : 42
2. 4900 gm, 2100 gm
3. 1 : 18 < 7 : 12 < 2 : 3 < 5 : 6
4. ₹2000
5. 1.6 km
6. a. x = 12; b. x = 54
7. x = 21
8. 18 : 21 : 35
9. Rajesh is correct.
10. a. 4 : 1; b. 2 : 1; c. 1 : 1; d. 1 : 3