

**RD SHARMA**

**Solutions**

**Class 7 Maths**

**Chapter 9**

**Ex 9.3**

**Q1. Which of the following are in proportion?**

**(i) 33,44,66,88**

We have,

$$33 : 44 = \frac{3}{4} \quad \text{and} \quad 66 : 88 = \frac{3}{4}$$

Therefore  $33 : 44 = 66 : 88$

Hence 33,44,66,88 are in proportion

**(ii) 46,69,69,46**

We have,

$$46 : 69 = \frac{2}{3} \quad \text{and} \quad 69 : 46 = \frac{3}{2}$$

Hence 46,69,69,46 are not in proportion

**(iii) 72,84,186,217**

We have,

$$72 : 84 = \frac{6}{7} \quad \text{and} \quad 186 : 217 = \frac{6}{7}$$

Therefore  $72 : 84 = 186 : 217$

Hence 72,84,186,217 are in proportion

**Q2. Find x in the following proportions**

**(i) 16:18=x:96**

$$\frac{16}{18} = \frac{x}{96}$$

$$x = \frac{256}{3}$$

**(ii) x:92=87:116**

$$\frac{x}{92} = \frac{87}{116}$$

$$x = \frac{87 \times 92}{116}$$

$$x = 69$$

**Q3. The ratio of income to the expenditure of a family is 7:6. Find the savings if the income is Rs.1400.**

The ratio of income and expenditure=7:6

$$7x=1400$$

$$x=200$$

$$\text{Expenditure}=6x=6 \times 200=\text{Rs.}1200$$

$$\text{Savings}=\text{Income}-\text{Expenditure}$$

$$=1400-1200$$

$$=\text{Rs.}200$$

**Q4. The scale of a map is 1:4000000. What is the actual distance between the two towns if they are 5cm apart on the map?**

The scale of map=1:4000000

Let us assume the actual distance between towns is x cm

$$1:4000000=5:x$$

$$x=5 \times 4000000=20000000\text{cm}$$

$$1\text{km}=1000\text{m}$$

$$1\text{m}=100\text{cm}$$

Therefore

$$x=200\text{km}$$

**Q5. The ratio of income of a person to his savings is 10:1. If his savings for one year is Rs.6000, what is his income per month?**

The ratio of income of a person to his savings is 10:1

$$\text{Savings per month}=\frac{6000}{12}$$

=Rs.500

Then let income per month be x

$$x:500=10:1$$

$$x=500 \times 10$$

$$x=5000$$

*Q6. An electric pole casts a shadow of length 20 metres at a time when a tree 6 metres high casts a shadow of length 8 metres. Find the height of the pole*

Height of the tree: Length of the shadow of tree

Height of the pole: Length of the shadow of pole

$$x:20=6:8$$

$$x = \frac{120}{8}$$

$$x=15$$