



Mixed Questions: Ratio and Proportion

1. Simplify 7:21.
2. Biscuits are sold in boxes of ten biscuits. Calculate the number of packets in five boxes.
3. Three pears cost £1.35. Calculate the cost of eight pears.
4. There are 100 centimetres in a metre. How many metres are there in 755 centimetres?
5. It takes five builders take four days to fit a new kitchen. How many days would it take two builders to fit the same kitchen?
6. Share 700 in the ratio 3:7.
7. Carl has a bag of 33 sweets and shares them with Beth in the ratio 4:7. He gives Beth the larger share. Calculate the number of sweets he gives to Beth.
8. If 5 parts are worth 150, what are 4 parts worth?



9. Five miles is approximately equal to eight kilometres. Calculate the approximate number of miles in 950 kilometres. Give your answer to the nearest mile.

10. Simplify 4:6:20.

11. There are 12 biscuits in a packet. Cassie has 156 biscuits. How many packets did she buy?

12. Molly is making pastry. The ratio of flour to butter is 2:1. She has 1.5kg of flour. Calculate the number of grams of butter she will need to make her pastry. Give your answer in grams.

13. Share 8km in the ratio 8:3:5.

14. If 1 part is worth 15, what are 10 parts worth?

15. Brooke and Kayla share some money in the ratio 6:5. Kayla receives £90. How much money do they share?

16. Jonti makes a necklace out of beads. She uses only gold and silver beads in the ratio 4:3. How many silver beads will she need for a pattern with 49 beads in it?



17. Which is the odd one out?

4:10, 12:25, 20:50, 8:20.

18. Marc and Santi share some milkshake in the ratio 3:5. Marc has 600ml of milkshake. How much milkshake do they share? Give your answer in litres.

19. In a secondary school of 1000 pupils, there are 400 pupils in KS3 and 250 pupils in KS5. Write the ratio of KS3 to KS4 to KS5 pupils. Give your answer in its simplest form.

20. 300g of fruit is required in a recipe for a cake that serves 15 people. How many grams of fruit would be needed to bake a cake that serves 7 people?



Mixed Questions: Ratio and Proportion **Answers**

1. Simplify 7:21.

$$\mathbf{1:3}$$

2. Biscuits are sold in boxes of ten biscuits. Calculate the number of packets in five boxes.

$$\mathbf{10 \times 5 = 50}$$

3. Three pears cost £1.35. Calculate the cost of eight pears.

$$\mathbf{1.35 \div 3 = \pounds 0.45}$$

$$\mathbf{0.45 \times 8 = \pounds 3.60}$$

4. There are 100 centimetres in a metre. How many metres are there in 755 centimetres?

$$\mathbf{755 \div 100 = 7.55\text{m}}$$

5. It takes five builders take four days to fit a new kitchen. How many days would it take two builders to fit the same kitchen?

$$\mathbf{5 \times 4 = 20 \text{ days}}$$

$$\mathbf{20 \div 2 = 10 \text{ days}}$$

6. Share 700 in the ratio 3:7.

$$\mathbf{3 + 7 = 10}$$

$$\mathbf{700 \div 10 = 70}$$

$$\mathbf{210:490}$$

7. Carl has a bag of 33 sweets and shares them with Beth in the ratio 4:7. He gives Beth the larger share. Calculate the number of sweets he gives to Beth.

$$\mathbf{4 + 7 = 11}$$

$$\mathbf{33 \div 11 = 3}$$

$$\mathbf{7 \times 3 = 21 \text{ sweets}}$$

8. If 5 parts are worth 150, what are 4 parts worth?

$$\mathbf{150 \div 5 = 30}$$

$$\mathbf{30 \times 4 = 120}$$

9. Five miles is approximately equal to eight kilometres. Calculate the approximate number of miles in 950 kilometres. Give your answer to the nearest mile.

$$\mathbf{5 \div 8 = 0.625 \text{ miles}}$$

$$\mathbf{0.625 \times 950 = 593.75 \text{ miles} = 594 \text{ miles}}$$



10. Simplify 4:6:20.

$$\mathbf{2:3:10}$$

11. There are 12 biscuits in a packet. Cassie has 156 biscuits. How many packets did she buy?

$$\mathbf{156 \div 12 = 13}$$

12. Molly is making pastry. The ratio of flour to butter is 2:1. She has 1.5kg of flour. Calculate the number of grams of butter she will need to make her pastry. Give your answer in grams.

$$\mathbf{1.5 \div 2 = 0.75\text{kg}}$$

$$\mathbf{0.75 \times 1000 = 750\text{g}}$$

13. Share 8km in the ratio 8:3:5.

$$\mathbf{8 + 3 + 5 = 16}$$

$$\mathbf{8\text{km} \div 16 = 0.5\text{km}}$$

$$\mathbf{4\text{km}:1.5\text{km}:2.5\text{km}}$$

14. If 1 part is worth 15, what are 10 parts worth?

$$\mathbf{15 \times 10 = 150}$$

15. Brooke and Kayla share some money in the ratio 6:5. Kayla receives £90. How much money do they share?

$$\mathbf{90 \div 5 = \pounds 18}$$

$$\mathbf{18 \times 6 = \pounds 108}$$

$$\mathbf{90 + 108 = \pounds 198}$$

16. Jonti makes a necklace out of beads. She uses only gold and silver beads in the ratio 4:3. How many silver beads will she need for a pattern with 49 beads in it?

$$\mathbf{4 + 3 = 7}$$

$$\mathbf{49 \div 7 = 7}$$

$$\mathbf{7 \times 3 = 21 \text{ silver beads}}$$

17. Which is the odd one out?

4:10, 12:25, 20:50, 8:20.

$$\mathbf{12:25}$$

18. Marc and Santi share some milkshake in the ratio 3:5. Marc has 600ml of milkshake. How much milkshake do they share? Give your answer in litres.

$$\mathbf{600 \div 3 = 200\text{ml}}$$

$$\mathbf{200 \times 5 = 1000\text{ml}}$$

$$\mathbf{1000 + 600 = 1600\text{ml}}$$

$$\mathbf{1600 \div 1000 = 1.6\text{l}}$$



19. In a secondary school of 1000 pupils, there are 400 pupils in KS3 and 250 pupils in KS5. Write the ratio of KS3 to KS4 to KS5 pupils. Give your answer in its simplest form.

$$\text{Number of KS4 pupils} = 1000 - (400 + 250) = 350$$

$$400:350:250 = 8:7:5$$

20. 300g of fruit is required in a recipe for a cake that serves 15 people. How many grams of fruit would be needed to bake a cake that serves 7 people?

$$300 \div 15 = 20\text{g}$$

$$20 \times 7 = 140\text{g}$$