

Ratios

Fractions, Decimals & % · Grade 6

Score: _____ / 12

◆ Medium · 12 Questions

Solve each problem. Show your work in the space provided. Write your answer on the line.

1. A map has a scale of $1 \text{ cm} = 5 \text{ km}$. Two cities are 8 cm apart on the map. What is the real distance?

Answer: _____

2. The ratio of cats to dogs is 3:4. If there are 21 cats, how many dogs are there?

Answer: _____

3. If 5 notebooks cost \$12.50, how much do 8 notebooks cost?

Answer: _____

4. A recipe for 4 servings uses 3 eggs. How many eggs are needed for 12 servings?

Answer: _____

5. The ratio of red to blue marbles is 2:5. If there are 35 blue marbles, how many red marbles are there?

Answer: _____

6. A car uses 8 liters of fuel for every 100 km. How many liters for 350 km?

Answer: _____

7. Two numbers are in ratio 5:8. Their sum is 91. Find the two numbers.

Answer: _____

8. A class has 18 boys and 12 girls. What percent of the class are boys?

Answer: _____

9. A runner completes 5 laps in 8 minutes. At this rate, how many laps in 24 minutes?

Answer: _____

10. The ratio of length to width of a rectangle is 5:3. If the width is 18 cm, find the length.

Answer: _____

11. If 12 workers can finish a job in 8 days, how many workers are needed to finish it in 4 days?

Answer: _____

- 12.** A model car is built at a scale of 1:20. The model is 15 cm long. How long is the real car?

Answer: _____

Answer Key

Ratios — Medium

1. 40 km

$$8 \text{ cm} \times 5 \text{ km/cm} = 40 \text{ km.}$$

2. 28

$$3:4 = 21:d. d = (21 \times 4) \div 3 = 84 \div 3 = 28.$$

3. \$20.00

$$\text{Unit price: } \$12.50 \div 5 = \$2.50. 8 \times \$2.50 = \$20.00.$$

4. 9 eggs

$$4 \text{ servings} \rightarrow 3 \text{ eggs. } 12 \text{ servings} = 3 \text{ sets of } 4. 3 \times 3 = 9 \text{ eggs.}$$

5. 14

$$2:5 = r:35. r = (2 \times 35) \div 5 = 70 \div 5 = 14.$$

6. 28 liters

$$\text{Rate: } 8/100. \text{ For } 350 \text{ km: } (8 \times 350) \div 100 = 2800 \div 100 = 28 \text{ liters.}$$

7. 35 and 56

$$\text{Total parts} = 5 + 8 = 13. \text{ Each part} = 91 \div 13 = 7. \text{ Numbers: } 5 \times 7 = 35, 8 \times 7 = 56.$$

8. 60%

$$\text{Total} = 30. \text{ Boys: } 18/30 = 3/5 = 60\%.$$

9. 15 laps

$$\text{Rate: } 5/8 \text{ laps per min. } 24 \text{ min} \times (5/8) = 15 \text{ laps.}$$

10. 30 cm

$$5:3 = L:18. L = (5 \times 18) \div 3 = 90 \div 3 = 30 \text{ cm.}$$

11. 24 workers

Inverse proportion: Workers $\times$ Days = constant. $12 \times 8 = 96$. Workers = $96 \div 4 = 24$.

12. 300 cm (3 m)

1:20 means real is 20 $\times$ model. $15 \times 20 = 300$ cm = 3 m.
