

Unit 2: Ratios, Rates, and Percentages

ADVANCED

Name: _____ Date: _____

Solve each problem. Write each answer as a single exact value (a number, fraction, or ratio) — no work or explanation required.

1. A recipe uses flour and sugar in the ratio 7:3. If a baker uses 21 cups of sugar, how many cups of flour are needed?

Answer: _____

2. A car travels 245 miles on 8.75 gallons of gas. What is the unit rate in miles per gallon?

Answer: _____

3. In a class the ratio of boys to girls is 5:6. If there are 44 students in total, how many girls are there?

Answer: _____

4. A shirt originally priced at \$48 is on sale for 35% off. What is the sale price in dollars?

Answer: _____

5. Two paints are mixed in the ratio 4:5 (red:blue). To make 63 liters of the mixture, how many liters of blue paint are used?

Answer: _____

6. A worker earns \$148.50 for 13.5 hours of work. At the same rate, how many dollars does the worker earn for 20 hours?

Answer: _____

7. After a 15% increase, a population is 3,910. What was the population before the increase?

Answer: _____

8. The ratios 6:15 and 14:x are equivalent. What is the value of x?

Answer: _____

9. A printer prints 340 pages in 8 minutes. At this rate, how many pages does it print in 18 minutes?

Answer: _____

10. A number increased by 12% equals 84 more than the original number. What is the original number?

Answer: _____

11. A store buys an item for \$60 and sells it for \$81. What is the percent markup based on the buy price?

Answer: _____

12. Three quantities A, B, and C are in the ratio 2:5:8. If C is 96, what is A + B?

Answer: _____