

Unit 5: Linear Relationships

PRACTICE

Name: _____ Date: _____

Solve each problem and write your exact answer in the space provided. Show your work where needed.

1. A recipe uses sugar and flour in a proportional relationship. If 3 cups of flour need 2 cups of sugar, how many cups of sugar are needed for 12 cups of flour?

Answer: _____

3. A line has the equation $y = 4x - 7$. What is the y-intercept of this line?

Answer: _____

5. For the line $y = -2x + 9$, what is the value of y when $x = 4$?

Answer: _____

7. Solve the system of equations: $y = 2x + 1$ and $y = x + 4$. Give your answer as a coordinate pair (x, y).

Answer: _____

9. A line passes through the point (0, -3) and has a slope of 5. Write the value of y when $x = 2$.

Answer: _____

11. The cost y (dollars) for x tickets is given by $y = 12x + 5$. What is the total cost for 7 tickets?

Answer: _____

2. Find the slope of the line that passes through the points (2, 5) and (6, 13).

Answer: _____

4. The relationship between distance y (miles) and time x (hours) is proportional, and $y = 45$ when $x = 3$. What is the constant of proportionality (unit rate in miles per hour)?

Answer: _____

6. Find the slope of the line passing through the points (-1, 4) and (3, -8).

Answer: _____

8. Solve the system of equations: $y = 3x$ and $x + y = 8$. Give your answer as a coordinate pair (x, y).

Answer: _____

10. Solve the system of equations by elimination: $x + y = 10$ and $x - y = 4$. Give your answer as a coordinate pair (x, y).

Answer: _____

12. Determine whether the relationship in this table is proportional. When $x = 2$, $y = 6$; when $x = 5$, $y = 15$; when $x = 8$, $y = 24$. Answer yes or no.

Answer: _____