

Unit 3: Two-Variable Statistics

PRACTICE

Name: _____ Date: _____

Show your work where needed and write each final answer exactly as a number, fraction, or coordinate pair.

1. A survey of 200 students recorded whether they play a sport and whether they play a musical instrument. 60 play a sport and an instrument, 40 play a sport but no instrument, 50 play an instrument but no sport, and 50 play neither. How many students play a sport in total?

Answer: _____

3. A two-way table shows that of 80 pet owners, 30 own a dog and 50 own a cat. Of the dog owners, 12 also own a cat. What is the relative frequency of owning BOTH a dog and a cat, as a fraction of all 80 owners? Give your answer as a fraction in lowest terms.

Answer: _____

5. A line of best fit is $y = -3x + 20$. Find the predicted value of y when $x = 5$.

Answer: _____

7. A line of best fit passes through the points (1, 4) and (5, 4). What is the slope of the line?

Answer: _____

9. For a line of best fit $y = 0.8x + 2$, the actual data point at $x = 10$ has a y -value of 8. Find the residual (actual minus predicted) at $x = 10$.

Answer: _____

2. In a two-way table, 45 people said 'yes' and 55 people said 'no', for a total of 100 people. What fraction of the people said 'yes'? Give your answer as a fraction in lowest terms.

Answer: _____

4. A line of best fit is $y = 2.5x + 4$. Find the predicted value of y when $x = 6$.

Answer: _____

6. A scatter plot has a line of best fit passing through the points (2, 5) and (6, 13). Find the slope of the line of best fit.

Answer: _____

8. For a line of best fit $y = 1.5x + 7$, the actual data point at $x = 4$ has a y -value of 15. Find the residual (actual minus predicted) at $x = 4$.

Answer: _____

10. A line of best fit is $y = 4x - 1$. For what value of x does the line predict $y = 23$?

Answer: _____

11. In a two-way table, among 120 people surveyed, 90 own a smartphone. Of those smartphone owners, 60 also use a fitness app. What fraction of smartphone owners use a fitness app? Give your answer as a fraction in lowest terms.

Answer: _____

12. A line of best fit for a data set is $y = -1.2x + 30$. Find the predicted value of y when $x = 10$.

Answer: _____