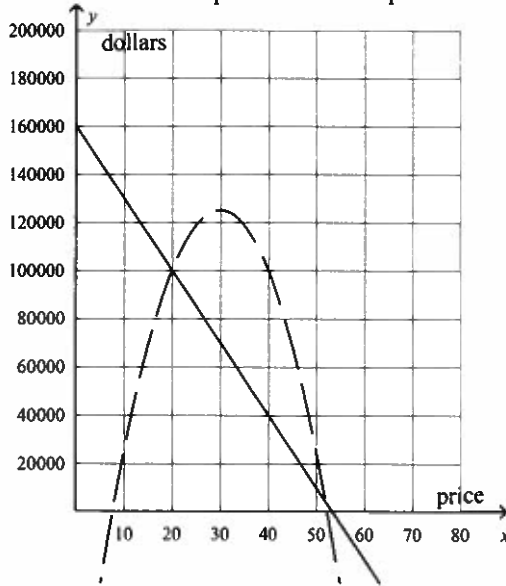


**Chapter 2 test**

**True/False**

Indicate whether the statement is true or false.

- \_\_\_\_\_ 1. Where the graphs of supply and demand functions intersect, the market is in equilibrium.
- \_\_\_\_\_ 2. Jeff prepares meals in the home of his customers. His fixed cost for transportation and supplies is \$14.50. The labor and groceries needed for each family meal is \$8.80, so the expense function is  $E = 5.7q + 8.8$ .
- \_\_\_\_\_ 3. The dashed line represents the expense function, and the solid line represents the revenue function.



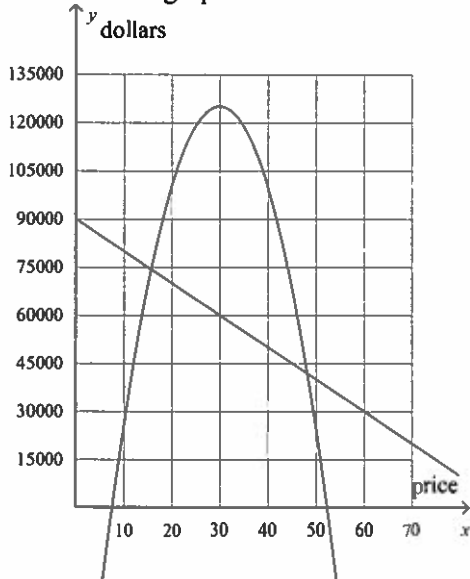
- \_\_\_\_\_ 4. When a correlation coefficient is near 1, there is little or no correlation between corresponding variables.
- \_\_\_\_\_ 5. A company manufactures and sells cutting boards for \$7 wholesale and recommends a markup of \$2.70 for a selling price of \$4.30.
- \_\_\_\_\_ 6. The equation of the linear regression line of the scatterplot defined by these points: (1, 45), (2, 35), (3, 20), (4, 5) is  $y = -13.5x + 60$ .
- \_\_\_\_\_ 7. A scatterplot is graphed with the time it takes a child to get dressed in the morning on the horizontal axis, and the child's age in years on the vertical axis. The graph shows a negative correlation because the time decreases as the age of the child increases.
- \_\_\_\_\_ 8. The Cacti company manufactures and sells succulent gardens. The gardens have an expense equation of  $E = 4.7q + 34,000$ . The average cost per garden is \$12.50 when 2,500 are produced.
- \_\_\_\_\_ 9. The price that a manufacturer charges a retailer for an item is the wholesale price.

10. The costs for postage and packaging are examples of fixed expenses.

**Multiple Choice**

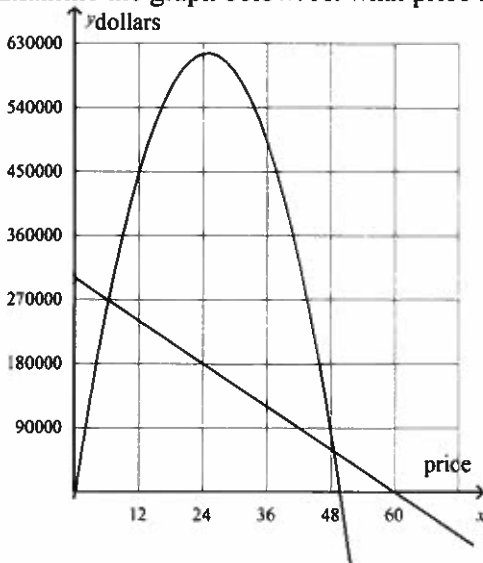
Identify the choice that best completes the statement or answers the question.

11. Marsha used a graphing calculator to graph an expense and a revenue function for her family's printing business. The graph looked like the one below. What are the approximate breakeven points?



- a. 75,000 and 38,000  
 b. 120,000 and 52  
 c. 15 and 47  
 d. 8 and 52

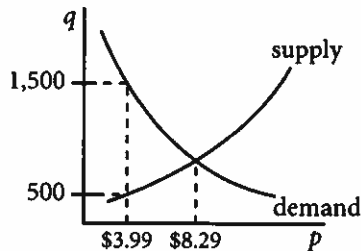
12. Examine the graph below. At what price is the maximum profit?



- a. \$24  
 b. \$48  
 c. \$27,000  
 d. \$62,000

13. McKenzie found the correlation coefficient on a set of data to be  $-0.20$ . Which term best describes the correlation?
- |                    |                  |
|--------------------|------------------|
| a. strong positive | c. weak positive |
| b. strong negative | d. weak negative |

14. The graph shows the supply and demand curves for a Cajun spice mix that Leroy manufactures in a home business.



What will happen if Leroy sets the price at \$3.99?

- |                                       |                                       |
|---------------------------------------|---------------------------------------|
| a. The supply will exceed the demand. | c. The market will be in equilibrium. |
| b. The demand will exceed the supply. | d. 500 spice mixes will be demanded.  |
15. A new company manufactures tennis rackets. The fixed expenses are \$78,490 and the variable expenses are \$14 per racket produced. What is the expense of producing 3,500 rackets?
- |             |              |
|-------------|--------------|
| a. \$49,000 | c. \$127,490 |
| b. \$81,990 | d. \$147,900 |
16. A demand function for step stools manufactured by U-Step is  $q = -720p + 20,500$ . What is the revenue if the price per step stool is \$18?
- |              |             |
|--------------|-------------|
| a. \$369,000 | c. \$28,040 |
| b. \$135,720 | d. \$7,540  |
17. In the ordered pairs, the first coordinate is the price,  $p$ , and the second is the quantity,  $q$ : (250, 5,000), (100, 8,500), (450, 2,000), (300, 5,000), (200, 4,750). When the points are plotted in a scatterplot, what is the correlation coefficient?
- |            |            |
|------------|------------|
| a. $-0.93$ | c. $-0.83$ |
| b. $-0.87$ | d. $-0.73$ |
18. Which is the regression equation for a scatterplot with these points rounded to the nearest tenth: (4, 35), (6.5, 92), (2, 10), (5, 50), (6, 85), (10, 110)?
- |                            |                       |
|----------------------------|-----------------------|
| a. $y = -11.1x + 9,376.90$ | c. $y = 11.1x - 13.4$ |
| b. $y = -13.4x + 8,432.27$ | d. $y = 13.4x - 11.1$ |
19. A company that produces lawn chairs uses market surveys and linear regression to develop a demand function based on the wholesale price. The demand function is  $q = -110p + 7,500$ . At a price of \$45, how many lawn chairs are demanded?
- |          |           |
|----------|-----------|
| a. 1,750 | c. 4,950  |
| b. 2,550 | d. 12,450 |