# 9.1 Exercises

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## Vocabulary and Concept Check

1. **VOCABULARY** What type of data do you need to make a scatter plot? Explain.
2. **REASONING** How can you identify an outlier in a scatter plot?

**LOGIC Describe the relationship you would expect between the data. Explain.**

3. shoe size of a student and the student's IQ
4. time since a train's departure and the distance to its destination
5. height of a bouncing ball and the time since it was dropped
6. number of toppings on a pizza and the price of the pizza

## Practice and Problem Solving

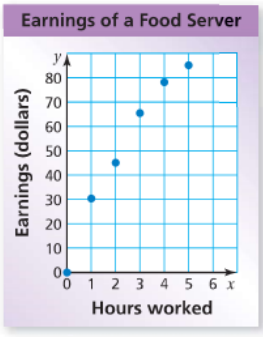
7. **JEANS** The table shows the average price (in dollars) of jeans sold at different stores and the number of pairs of jeans sold at each store in one month.

| Average Price | 22 | 40 | 28 | 35 | 46 |
|---|---|---|---|---|---|
| Number Sold | 152 | 94 | 134 | 110 | 81 |

   a. Write the ordered pairs from the table and plot them in a coordinate plane.
   b. Describe the relationship between the two data sets.

8. **SUVS** The scatter plot shows the numbers of sport utility vehicles sold in a city from 2009 to 2014.

   a. In what year were 1000 SUVs sold?
   b. About how many SUVs were sold in 2013?
   c. Describe the relationship shown by the data.

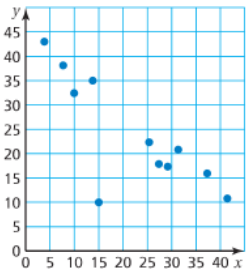



9. **EARNINGS** The scatter plot shows the total earnings (wages and tips) of a food server during one day.

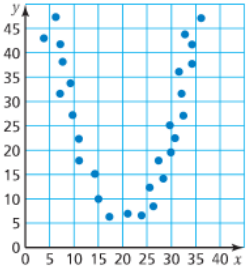
   a. About how many hours must the server work to earn $70?
   b. About how much did the server earn for 5 hours of work?
   c. Describe the relationship shown by the data.

**Describe the relationship between the data. Identify any outliers, gaps, or clusters.**

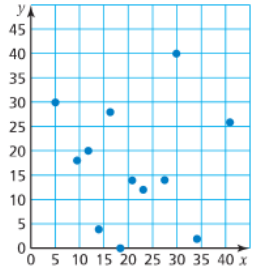
**10.**




**11.**



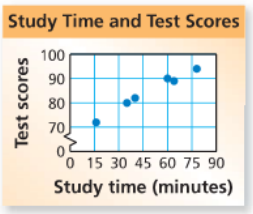

**12.**




**13. HONEY** The table shows the average price per pound for honey in the United States from 2009 to 2012. What type of relationship do the data show?

| Year, $x$ | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|
| Average Price per Pound, $y$ | $4.65 | $4.85 | $5.15 | $5.53 |

**14. TEST SCORES** The scatter plot shows the numbers of minutes spent studying and the test scores for a science class. (a) What type of relationship do the data show? (b) Interpret the relationship.




**15. OPEN-ENDED** Describe a set of real-life data that has a negative linear relationship.

**16. PROBLEM SOLVING** The table shows the memory capacities (in gigabytes) and prices (in dollars) of 7-inch tablet computers at a store. (a) Make a scatter plot of the data. Then describe the relationship between the data. (b) Identify any outliers, gaps, or clusters. Explain why you think they exist.

| Memory (GB), $x$ | 8 | 16 | 4 | 32 | 4 | 16 | 4 | 8 | 16 | 8 | 16 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Price (dollars), $y$ | 200 | 230 | 120 | 250 | 100 | 200 | 90 | 160 | 150 | 180 | 220 | 150 |

**17. Reasoning** Sales of sunglasses and beach towels at a store show a positive linear relationship in the summer. Does this mean that the sales of one item *cause* the sales of the other item to increase? Explain.

## Fair Game Review *What you learned in previous grades & lessons*

**Use a graph to solve the equation. Check your solution.** *(Section 5.4)*

**18.** $5x = 2x + 6$ **19.** $7x + 3 = 9x - 13$ **20.** $\frac{2}{3}x = -\frac{1}{3}x - 4$

**21. MULTIPLE CHOICE** When graphing a proportional relationship represented by $y = mx$, which point is not on the graph? *(Section 4.3)*

Ⓐ $(0, 0)$ Ⓑ $(0, m)$ Ⓒ $(1, m)$ Ⓓ $(2, 2m)$