Name:_____ Period:____ SCORE:____ / ____ = _____% = ____

HW 3-2: Representing Relations

1. The number of baskets a company produces each day is shown in the tat

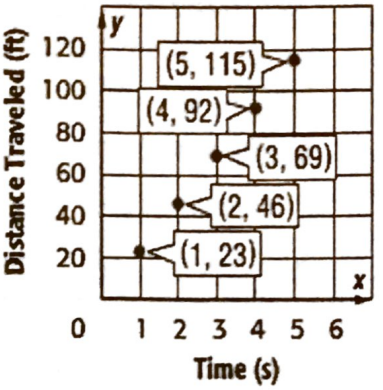
a. Write an equation to find the total number of baskets crafted in any number of days. Describe the relationship in words.

$b = 45d$ 45 baskets per day

b. Use the equation to determine how many baskets the company makes in one non-leap year.

16,425 baskets

2. A type of dragonfly is the fastest insect. The graph shows how far the dragonfly can travel.



a. Write an equation to find how far the dragonfly can travel d in any number of seconds s.

b. Use the equation to determine how far the dragonfly can travel in one minute.

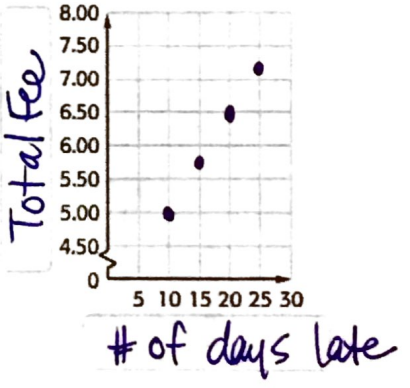
3. A library charges a late return fee of \$3.50 plus \$0.15 per day that a book is returned late.

a. Write an equation to find the total late fee f for any number of days late d.

$f = 0.15d + 3.50$

b. Make a table to find the total fee if a book is 10, 15, 20, or 25 days late. Then graph the ordered pairs. Label the axes of the graph.

d	show work	f
10		5
15		5.75
20		6.50
25		7.25



4. John was swimming lengths across the pool. The table shows the time it took him to complete different lengths.

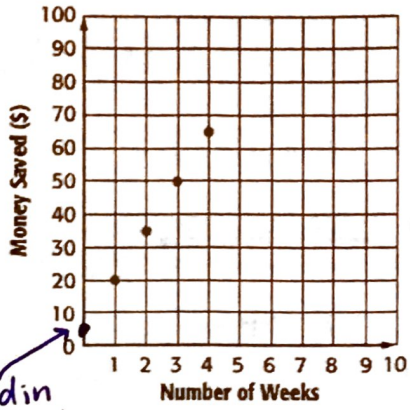
Number of Lengths (n)	Time (t) (minutes)
3	5.25
5	8.75
7	12.25
9	15.75

Based on the table, which equation can be used to approximate the time t it will take for John to complete any number of lengths n?

Ⓐ $n = 1.75t$ Ⓒ $n = 3.5t$

Ⓑ $t = 1.75n$ Ⓓ $t = 3.5n$

5. **Financial Literacy** Kara is saving money for a school trip. The graph shows how much money she has saved over 4 weeks.



added in to match the slope of the rest of the dots

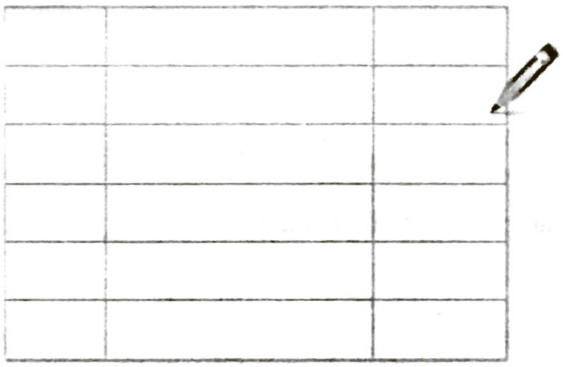
a. Write an equation to find how much money d Kara can save over w weeks. $d = 15w + 5$

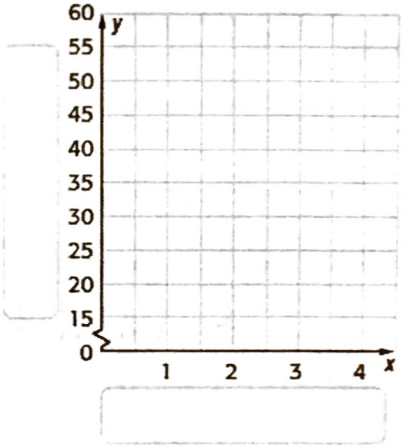
b. Use the equation to determine how much money Kara can save in 24 weeks. $365.00

6. CCSS **Use Math Tools** Cornett Cable charges $32.50 a month for basic cable television. Each premium channel selected costs an additional $4.95 per month.

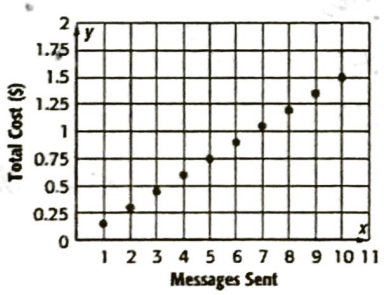
a. Write an equation to find the total monthly cost c for any number of premium channels p.

b. Make a table to show the monthly cost for 0, 1, 2, 3, and 4 premium channels. Then graph the ordered pairs.





7. The graph represents the total cost to send a text message.



What will be the total cost in dollars if Javier sends 70 text messages?

Ⓐ $4.50
Ⓑ $8.25
Ⓒ $10.50
Ⓓ $13.50

8. The table shows the number of people that attended a new movie over the course of a week.

Day	Attendance
1	12,200
3	12,600
5	13,000
7	13,400

Which of the following is the best prediction for attendance on the 8th day?

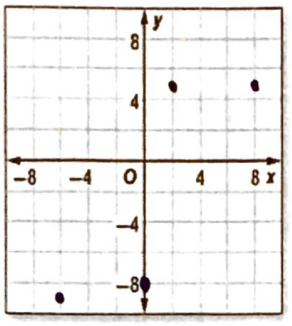
Ⓕ 13,400
Ⓖ 13,600
Ⓗ 13,800
Ⓘ 14,000

Express each relation as a table and a graph. Then state the domain and range.

9. {(8, 5), (−6, −9), (2, 5), (0, −8)}

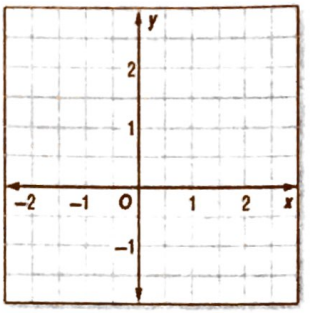
D: {-6, 0, 2, 8} R: {-9, -8, 5}

x	y
8	5
-6	-9
2	5
0	-8



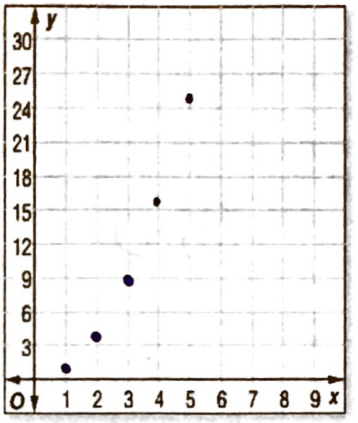
10. $\left\{\left(2\frac{1}{2}, -1\frac{1}{2}\right), \left(2, \frac{1}{2}\right), \left(-1, 2\frac{1}{2}\right), \left(-1, -1\frac{1}{2}\right)\right\}$

x	y



11. CCSS **Multiple Representations** Refer to the table at the right.

x	y
1	1
2	4
3	9
4	16
5	25



a. **Words** Describe the pattern, if any, in the table. Square the x values it equals y

b. **Numbers** Write the ordered pairs (x, y).
(1,1) (2,4) (3,9) (4,16) (5,25)

c. **Graphs** Graph the ordered pairs on a coordinate plane.

d. **Words** Describe the graph. How is it different from the other real-world graphs in this lesson?
It does NOT make a straight line. It curves.

12. What is the range of the relation {(1, 4), (3, 0), (5, 5), (7, 4)}?

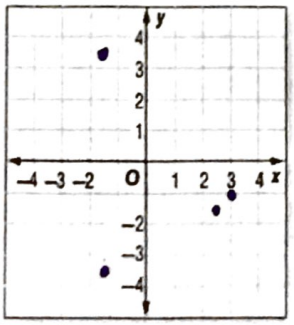
Ⓐ {(1, 4), (3, 0), (5, 5), (7, 4)}
Ⓒ {0, 4, 5}
Ⓑ {1, 3, 5, 7}
Ⓓ {1, 4}

Express each relation as a table and a graph. Then state the domain and range.

13. {(−1.5, 3.5), (2.5, −1.5), (3, −1), (−1.5, −3.5)}

D: {-1.5, 2.5, 3}
R: {-3.5, -1.5, -1, 3.5}

x	y
-1.5	3.5
2.5	-1.5
3	-1
-1.5	-3.5

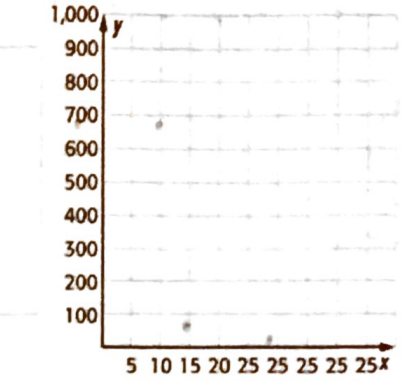


14. A candy company produces 30 boxes of candy per hour.

a. Make a table of ordered pairs in which the *x*-coordinate represents the number of hours and the *y*-coordinate represent the number of boxes of candy in 5, 10, 15, and 20 hours.

x	y

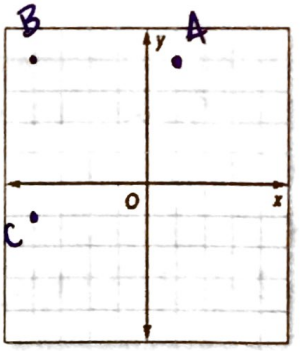
b. Graph the ordered pairs.



15. CCSS **Identify Structure** Graph the points in the table on a coordinate plane. Label the points *A*, *B*, and *C*. What are the coordinates of point *D* if points *A*, *B*, *C*, and *D* form a square?

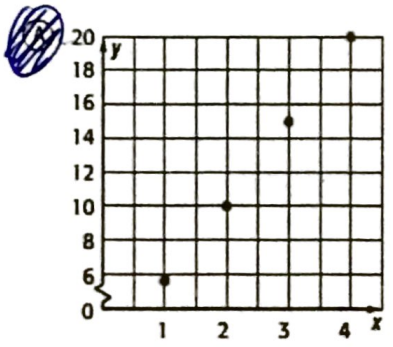
(1, -1)

x	y
1	4
−4	4
−4	−1

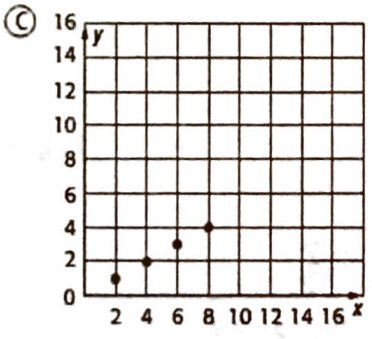


16. Short Response Express the relation {(3, 7), (1, 1), (6, 5), (2, 4)} as a table. Then state the domain and range.

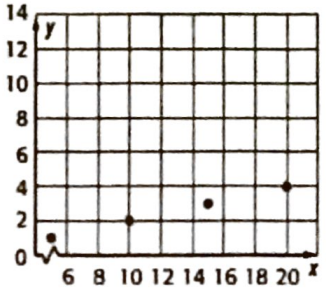
17. Josiah earns $5 an hour washing cars for the summer. Which graph shows the relationship between the hours worked and the amount of money Josiah earned for 1, 2, 3, and 4 hours of work?



Ⓒ



Ⓑ



Ⓓ