1.8 Represent Functions as Graphs

Before You represented functions as rules and tables.

Now You will represent functions as graphs.

Why? So you can describe sales trends, as in Example 4.

You can use a graph to represent a function. Given a table that represents a function, each corresponding pair of input and output values forms an ordered pair of numbers that can be plotted as a point. The x-coordinate is the input. The y-coordinate is the output.

Table

Input, x	Output, y
1	2
2	3
4	5

Ordered Pairs

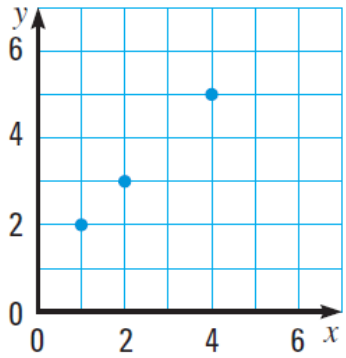
(input, output)

(1, 2)

(2, 3)

(4, 5)

Graph



The horizontal axis of the graph is labeled with the input variable. The vertical axis is labeled with the output variable.

LESSON 1.8

Practice A

For use with the lesson "Represent Functions as Graphs"

Complete the statement.

1. The ___?___ axis of the graph of a function is labeled with the input variable.
2. The ___?___ axis of the graph of a function is labeled with the output variable.

Write the ordered pairs that can be formed from the table.

3.

Input	Output
0	2
1	4
2	6
3	8

4.

Input	Output
3	2
6	2
9	2
12	2

(3, 2)
(6, 2)
(9, 2)
(12, 2)

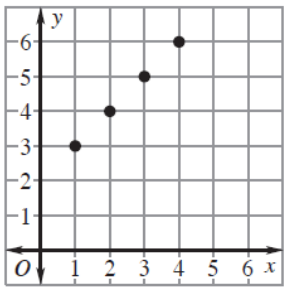
5.

Input	Output
10	4
9	8
8	12
7	16

(10, 4)
(9, 8)
(8, 12)
(7, 16)

Identify the ordered pairs in the graph. Then identify the domain and range.

6.



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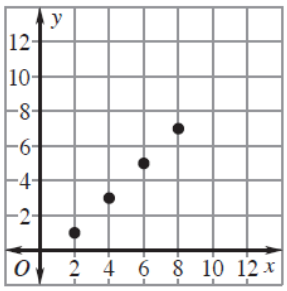

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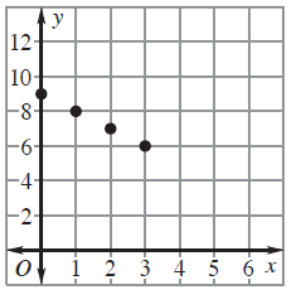
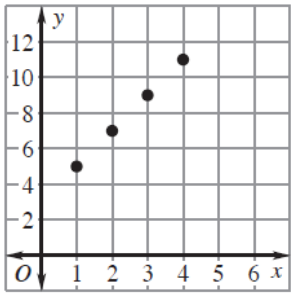


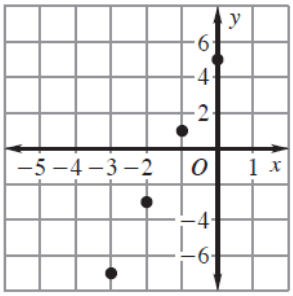
(1, 3)
(2, 4)
(3, 5)
(4, 6)

D: 1, 2, 3, 4
R: 3, 4, 5, 6

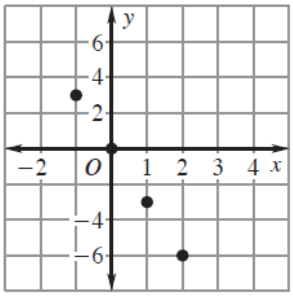
9.



10.



11.



D

$-3, -2, -1, 0$

$(-3, -7)$

$(-2, -3)$

$(-1, 1)$

$(0, 5)$

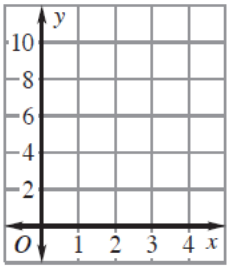
R:

$-7, -3, 1, 5$

Graph the function.

12. $y = x + 5$

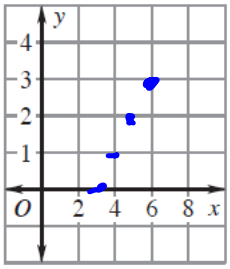
Domain: 0, 1, 2, 3



x	y
0	3
1	2
2	1
3	0

13. $y = x - 3$

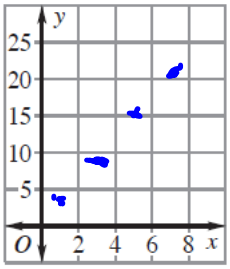
Domain: 6, 5, 4, 3



x	y
6	3
5	2
4	1
3	0

14. $y = 3x$

Domain: 1, 3, 5, 7

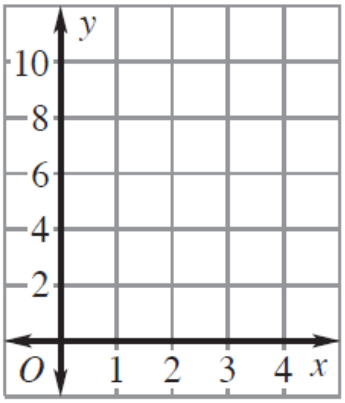


x	y
1	3
3	9
5	15
7	21

Graph the function.

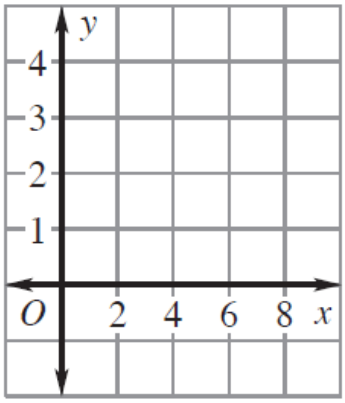
12. $y = x + 5$

Domain: 0, 1, 2, 3



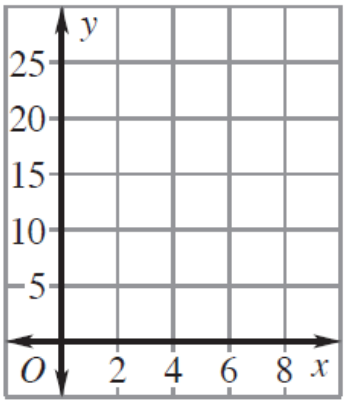
13. $y = x - 3$

Domain: 6, 5, 4, 3



14. $y = 3x$

Domain: 1, 3, 5, 7



Match the rule for the function with its graph.

15. $y = 6x$ (1,6) (2,12)

16. $y = 6x - 1$

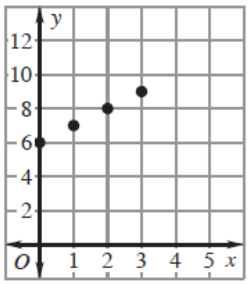
17. $y = x + 6$

18. $y = \frac{1}{6}x$

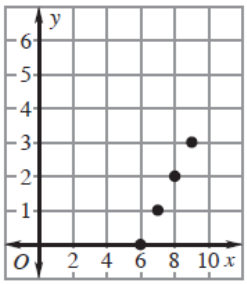
19. $y = x - 6$ (6,0)

20. $y = 6x + 1$

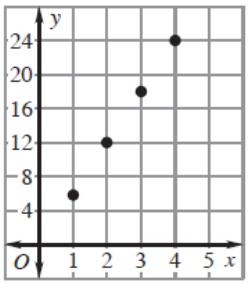
A.



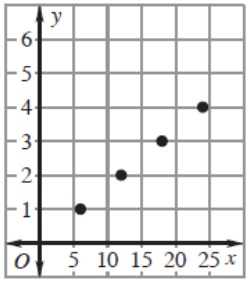
B.



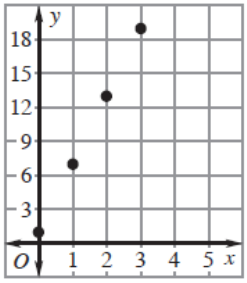
C.



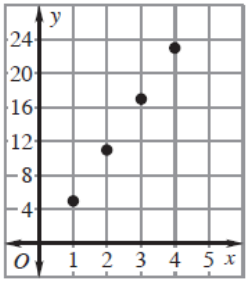
D.



E.

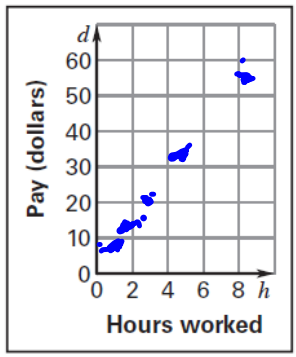


F.

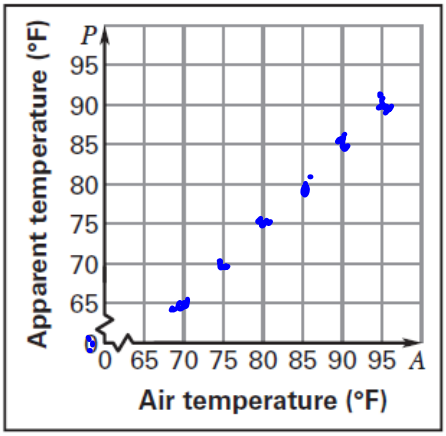


21. Hourly Pay The table shows the pay d (in dollars) as a function of the number of hours worked h. Graph the function.

Hours worked, h	1	2	3	5	8
Pay (dollars), d	6.75	13.50	20.25	33.75	54

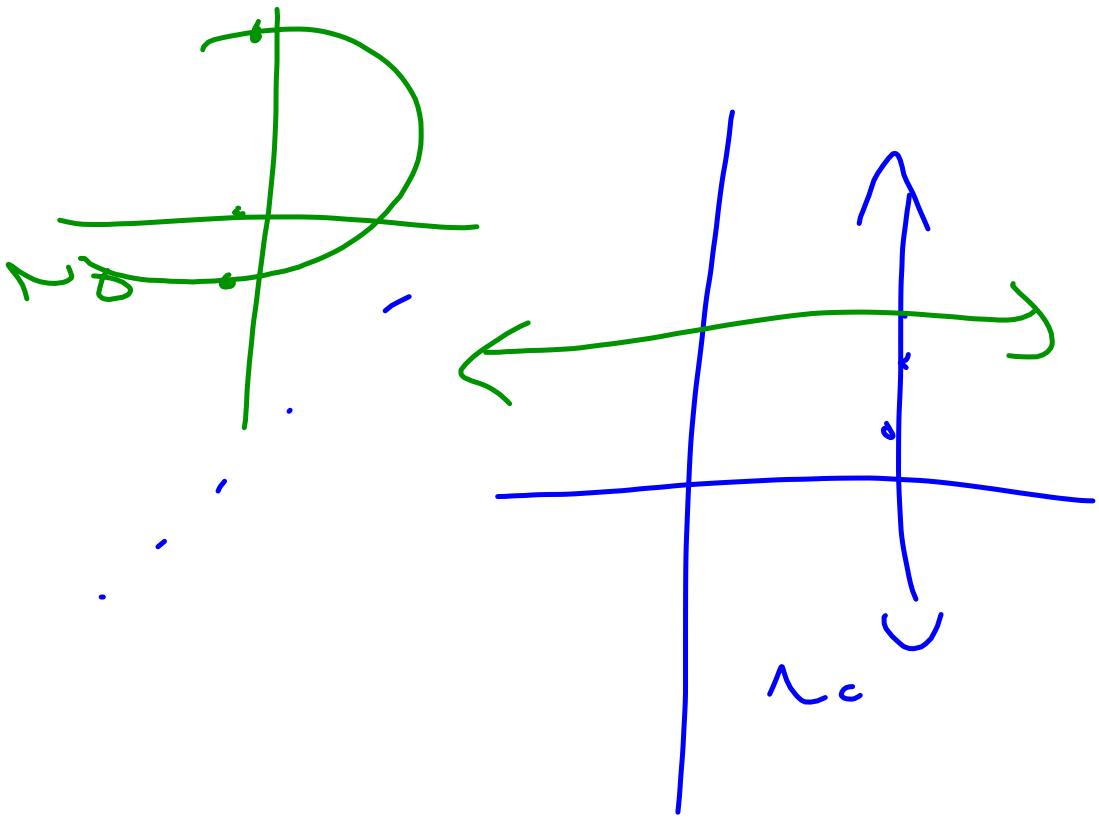


22. Heat Index The table shows the apparent temperature P (in degrees Fahrenheit), or the temperature as it feels to your body, as a function of the air temperature A (in degrees Fahrenheit) when there is 10% humidity. Graph the function. Then use your graph to predict the apparent temperature when the air temperature is 105°F and the humidity is 10%.



Air temperature (°F), A	70	75	80	85	90	95
Apparent temperature (°F), P	65	70	75	80	85	90

105 → 100°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