

More Relations

KEY

State the domain and range for each relation.

1. $\{(-7,4) (-3,16) (-4,17) (-6,-8) (-8,12)\}$

$d = \{-7, -3, -4, -6, -8\}$
 $r = \{4, 16, 17, -8, 12\}$
2. $\{(-1,-2) (3,6) (-7,14) (-2,8) (-6,2)\}$

$d = \{-1, 3, -7, -2, -6\}$
 $r = \{-2, 6, 14, 8, 2\}$
3. $\{(0,9) (-8,5) (3,12) (-8,-3) (7,18)\}$

$d = \{0, -8, 3, -8, 7\}$
 $r = \{9, 5, 12, -3, 18\}$
4. $\{(58, 14) (44,97) (74,32) (6,18) (63,44)\}$

$d = \{58, 44, 74, 6, 63\}$
 $r = \{14, 97, 32, 18, 44\}$

Create a t-table using the domain and the given equation. Find the range.

- | Relation | Domain | | | | |
|-------------------|-----------------------|-----|----------------|---------|-----------|
| 5. $y = 3 x + 1$ | $\{-2, -1, 0, 1, 3\}$ | | | | |
| | $\{7, 4, 1, 4, 10\}$ | | | | |
| | | x | $y = 3 x + 1$ | y | |
| | | | | (x,y) | |
| | | -2 | $3 -2 + 1$ | 7 | $(-2, 7)$ |
| | | -1 | $3 -1 + 1$ | 4 | $(-1, 4)$ |
| | | 0 | $3 0 + 1$ | 1 | $(0, 1)$ |
| | | 1 | $3 1 + 1$ | 4 | $(1, 4)$ |
| | | 3 | $3 3 + 1$ | 10 | $(3, 10)$ |
| 6. $y = 3x - 1$ | $\{0, 1, 3, 4\}$ | x | $y = 3x - 1$ | y | (x,y) |
| | | 0 | $3(0) - 1$ | -1 | $(0, -1)$ |
| | | 1 | $3(1) - 1$ | 2 | $(1, 2)$ |
| | | 3 | $3(3) - 1$ | 8 | $(3, 8)$ |
| | | 4 | $3(4) - 1$ | 11 | $(4, 11)$ |
| 7. $y = 4x + 2$ | $\{0, 1, 3, 4\}$ | x | $y = 4x + 2$ | y | (x,y) |
| | | 0 | $4(0) + 2$ | 2 | $(0, 2)$ |
| | | 1 | $4(1) + 2$ | 6 | $(1, 6)$ |
| | | 3 | $4(3) + 2$ | 14 | $(3, 14)$ |
| | | 4 | $4(4) + 2$ | 18 | $(4, 18)$ |

8. $y - 2x = 0$ $\{1, 2, 3, 4\}$

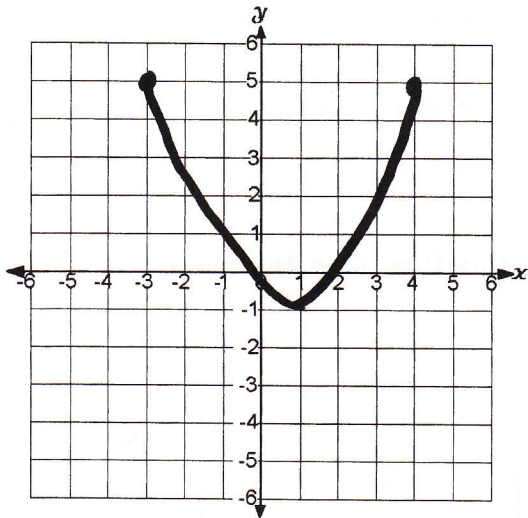
$y = 2x$

$y = 2x$

x	$y - 2x = 0$	y	(x,y)
1	$y - 2(1) = 0$	2	(1, 2)
2	$y - 2(2) = 0$	4	(2, 4)
3	$y - 2(3) = 0$	6	(3, 6)
4	$y - 2(4) = 0$	8	(4, 8)

Find the domain and range of each graph. Write answers on line below graph.

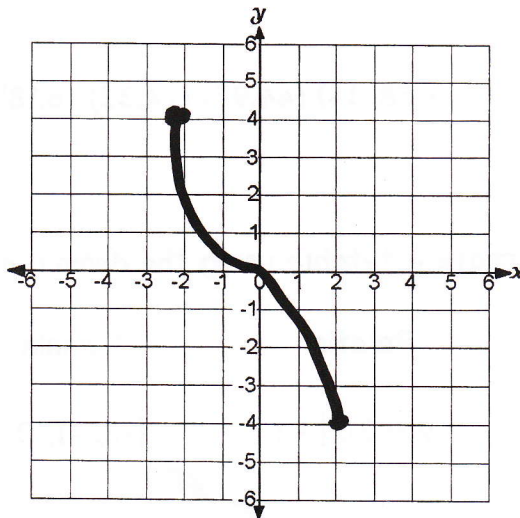
9.



$-3 \leq x \leq 4 ; -1 \leq y \leq 5$

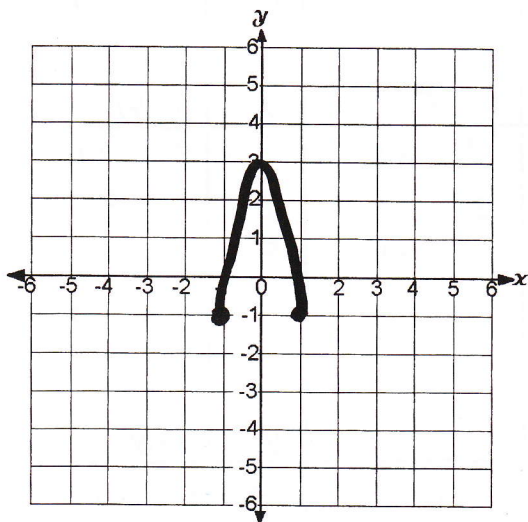
x	y
-3	5
4	5
1	-1

10.



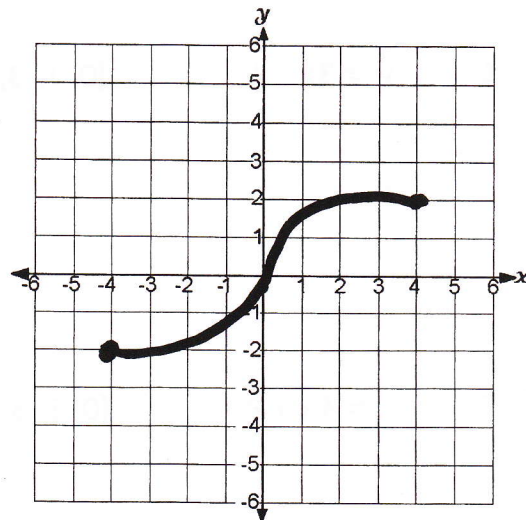
$-2 \leq x \leq 2 ; -4 \leq y \leq 4$

11.



$-1 \leq x \leq 1 ; -1 \leq y \leq 3$

12.



$-4 \leq x \leq 4 ; -2 \leq y \leq 2$

Identify the independent and dependent variable in each situation.

13. Stephen charges \$25 for each lawn he mows.

$$\begin{aligned} x &= \text{\# of lawns (indep)} & y &= 25x \\ y &= \text{\$} & & \text{(dep)} \end{aligned}$$

14. A car can travel 28 miles per gallon of gasoline.

$$\begin{aligned} x &= \text{gallons} & y &= 28x \\ y &= \text{miles} \end{aligned}$$

15. Each problem on the test is worth 5 points.

$$\begin{aligned} x &= \text{problems} & y &= 5x \\ y &= \text{total pts.} \end{aligned}$$

16. Every song you buy on i-Tunes is \$0.99.

$$\begin{aligned} x &= \text{\# of songs} & y &= .99x \\ y &= \text{\$} \end{aligned}$$