

1. Craig has a job waiting tables where he earns \$3.85 per hour plus tips. Craig earned \$74.11 in tips during his shift yesterday.

If x represents the number of hours Craig worked yesterday, which of the following equations can be used to find the amount of money Craig earned yesterday?

- A. $y = 3.85x + 74.11$
- B. $y = 74.11x - 3.85$
- C. $y = 74.11x + 3.85$
- D. $y = 3.85x - 74.11$

2. $y = 2x^3 + 6$

- A. linear
- B. neither linear nor nonlinear
- C. nonlinear
- D. both linear and nonlinear

3. Which of the following represents a function?

A.

x	-12	-5	-2	2
y	22	20	28	22

B.

x	-12	-5	-2	-5
y	22	20	22	21

C.

x	-12	-5	-2	-2
y	22	20	22	21

D.

x	-12	-5	-12	2
y	22	22	28	21

In all linear equations, variables occur only to the first power.

You learned before Christmas break that linear equations also form **straight** lines with graphed.

$$y = 2x + 1$$

$$y = 3x$$

$$y = 3x^3$$

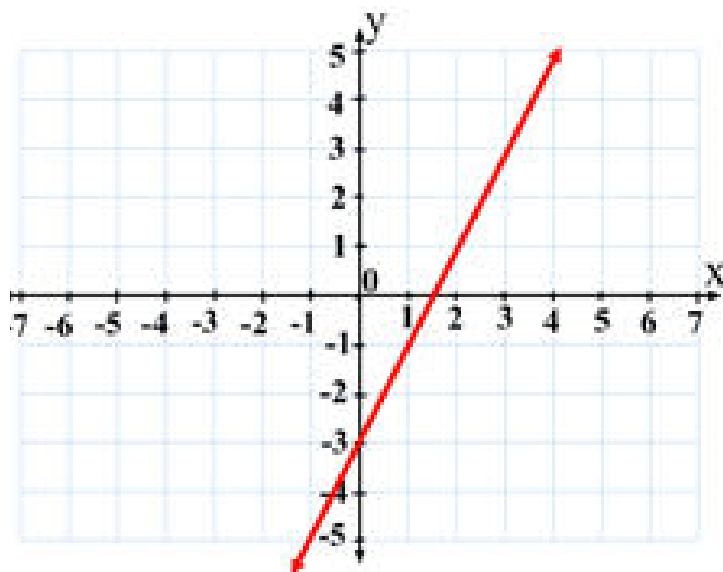
$$y = x - 2$$

$$y = 1x^2$$

$$y = 4$$

$$x = -5$$

Who is linear vs. nonlinear?



$$y = 2x - 3$$

What are some points on this line?

Now - what if I didn't have the graph to see if these points are actually on it?

(x, y) is the **solution** (or solution set) of an equation

Which ordered pairs are solutions of $y = 2x - 1$?

a. (4,7)

b. (-7,-13)

c. (-7, -15)

d. (0, -1)

(x, y) is the **solution** (or solution set) of an equation

Which ordered pairs are solutions of $2x + 3y = 7$?

a. (1,2)

b. (2,1)

c. (5, -1)

d. (4, -1)

Find solutions for this
linear equation and
graph it.

$$y = 3x + 4$$

Find solutions for this linear equation and graph it.

$$y = \frac{1}{2}x - 2$$

Find solutions for this linear equation and graph it.

$$2x + y = 10$$

x	-3	-2	-1	0	1	2	3
y							

In (1-4), copy and complete the above table of values to show the solutions of the following equations:

1. $y = x - 8$
2. $y = 2x + 4$
3. $4x + y = 20$
4. $6x - y = 18$

Sketch the graph of $y = 2x - 3$

Domain	Function Rule	Range	Solution Set
x		y	(x,y)
-2			5.
-1			6.
0			7.
1			8.
2			9.

10. Graph done correctly

Answer Key

1. $y = x - 8$

x	-3	-2	-1	0	1	2	3
y	-11	-10	-9	-8	-7	-6	-5

2. $2x + 4$

x	-3	-2	-1	0	1	2	3
y	-2	0	2	4	6	8	10

3. $4x + y = 20$

x	-3	-2	-1	0	1	2	3
y	32	28	24	20	16	12	8

4. $6x - y = 18$

x	-3	-2	-1	0	1	2	3
y	-36	-30	-24	-18	-12	-6	0

Sketch the graph of $y = 2x - 3$

Domain	Function Rule	Range	Solution Set
x	$y = 2x - 3$	y	(x,y)
-2	$y = 2x - 3$	-7	5. (-2, -7)
-1	$y = 2x - 3$	-5	6. (-1, -5)
0	$y = 2x - 3$	-3	7. (0, -3)
1	$y = 2x - 3$	-1	8. (1, -1)
2	$y = 2x - 3$	1	9. (2, 1)

10.

