

BE-1A MONDAY 1-24-11

① SOLVE $-2x + 6y = 12x + 18$ for y

② Why is "for y " a necessary part of the instructions for #①?

③ GRAPH: $y = 2x + 3$

Tip: Use A T-Table

Tip: WHAT is THE domain ASSUMED to be WHEN it is NOT given?

• RETURN/REVIEW • Homework

• Quiz

• MAKE-UP QUIZZES

AN EQUATION WITH 2 VARIABLES CAN be graphed, ONE of the VARIABLES will be the domain (OR independent variable), the other will be the range (OR dependent variable).

X is our MOST common variable for the domain. Y is THE MOST common variable for the range.

IF NO domain is given, ASSUME it is "ALL real numbers". You can PICK ANY X to find its Y, $X = \{-2, -1, 0, 1, 2\}$ ARE good "starting" values for your T-Table.

Here are some common equations you can graph - which ones will graph as a line? How do you know?

$$y = 2x + 3$$

$$y = 3x^2 + 1$$

$$xy = 8$$

$$\frac{1}{x} = 12$$

$$-2x + 4y + 2y = 10x + 18$$

$$\Downarrow \quad \Downarrow \quad \Downarrow \quad \Downarrow \quad \Downarrow$$

$$-2x' + 4y' + 2y' = 10x' + 18$$

Only x' , y' , and number terms, and if each term is only being added or subtracted, graph will ALWAYS be a line.

If $-2x + 4y + 2y = 10x + 18$ is a "LINEAR Equation", then you can always combine "like" terms and get a single x , y and number term.

$$-2x + 4y + 2y = 10x + 18$$

$$-2x + 6y = 10x + 18$$

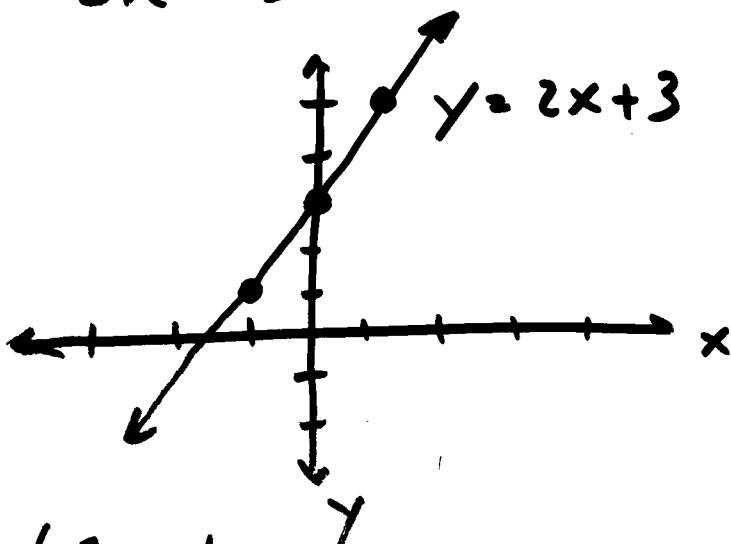
$$+2x \qquad \qquad \qquad +2x$$

$$\frac{6y}{6} = \frac{12x + 18}{6}$$

Solve for y

$$y = 2x + 3$$

x	$y = 2x + 3$
-1	$2(-1) + 3 = 1$
0	$2(0) + 3 = 3$
1	$2(1) + 3 = 5$



* TIP
 You know it is a line, need 2 points plus a "check" point, use easy x values

Find THE SLOPE of the line
you just graphed: $y = 2x + 3$

X	Y
-1	1
0	3
1	5

Use ANY two POINTS on
the line:

⊙ (EX) $(-1, 1), (0, 3)$

$$\frac{3-1}{0+1} = \frac{2}{1} = \boxed{2 = m}$$

⊙ (EX) $(0, 3), (1, 5)$

$$\frac{5-3}{1-0} = \frac{2}{1} = \boxed{2 = m}$$

⊙ (EX) $(-1, 1), (1, 5)$

$$\frac{5-1}{1+1} = \frac{4}{2} = \frac{2}{1} = \boxed{2 = m}$$

Homework: Pg 83 / Lesson 5-1 # 1-10