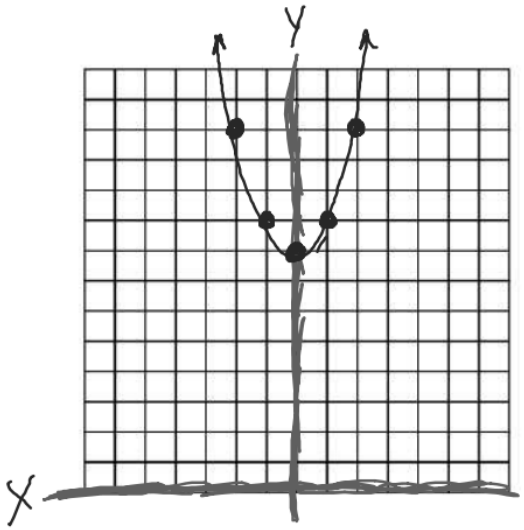
Sec1H	Notes 1-3 Graphing Equations Part 1	Unit 1

Ex 1: Graphing without a Shortcut:

Graph $y = x^2 + 8$

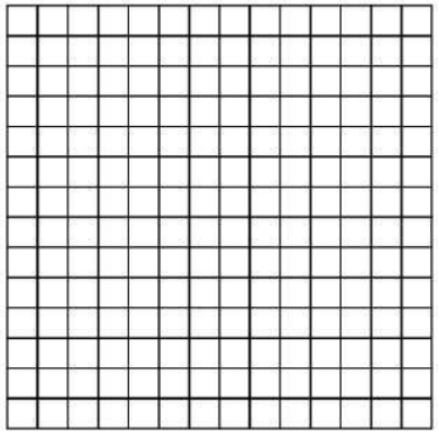
x	*Work*	*y*
-2		12
-1		9
0		8
1		9
2		12



How to use the TABLE on the calculator:

Graph $y = -2x^2$

x	*y*



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Linear Equation- creates a straight line

X-Intercept- where the lines crosses the X-axis

Slope-Intercept Form- $y = mx + b$

Slope (Rate of Change)-

$m = \frac{\text{Rise}}{\text{Run}}$

If m is positive go up
If m is negative go down
ALWAYS CHOOSE the RIGHT!

Y-Intercept-

b where the line crosses the y-axis AND where we start the line

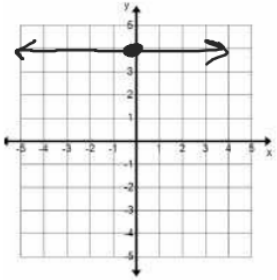
Horizontal: ↔ $y = \text{a number}$ NO X! slope = 0

Vertical: ↕ $x = \text{a number}$ NO Y! slope = undefined y-intercept does not exist!

Ex 2: Horizontal & Vertical Lines - Graph the following, then identify the slope, and the y-intercept.

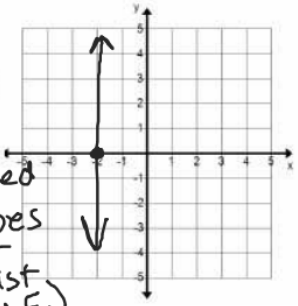
A. $y = 4$

slope = 0
y-int (0,4)



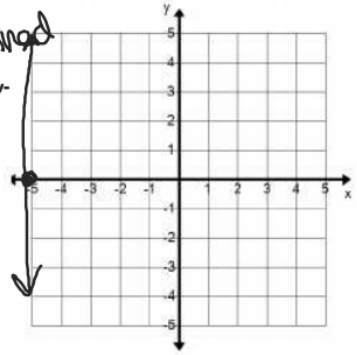
B. $x = -2$

Slope = undefined
y-int = Does not Exist (D.N.E.)



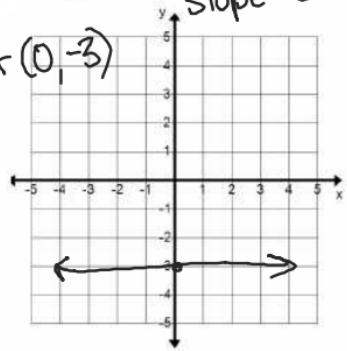
C. $x = -5$

slope = undefined
y-int = D.N.E.



D. $y = -3$

slope = 0
y int (0, -3)



Ex 3: Identify the slope and *y*-intercept from the equation.

A. $y = 4 - 3x$

slope = -3
y-int (0,4)

B. $x = -2$

slope = undefined
y-int D.N.E.

C. $y = -5x$

slope = -5 y int (0,0)

D. $y = \frac{3}{4}x + 11$

slope = 3/4
y-int (0, 11)

E. $y = 7$

slope = 0
y-int (0,7)

F. $y = x$

slope = 1
y-int (0,0)

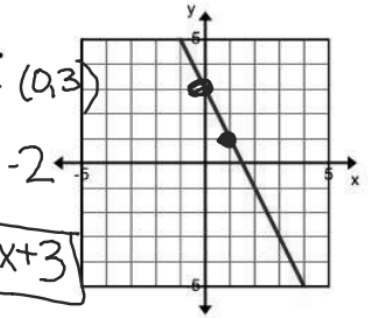
Ex 4: Write the equation for each of the following graphs.

A.

y-int (0,3)

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

$y = -2x + 3$

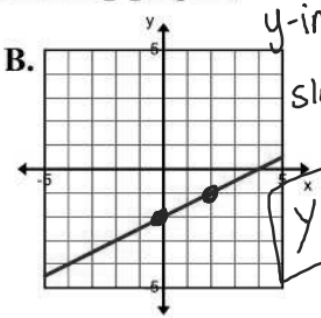


B.

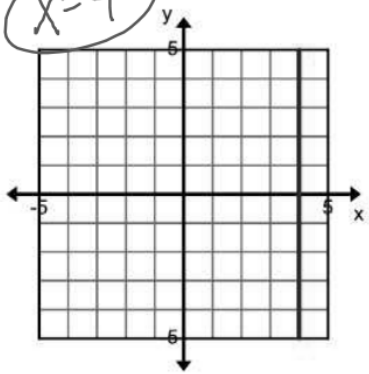
y-int (0,-2)

slope = $\frac{1}{2}$

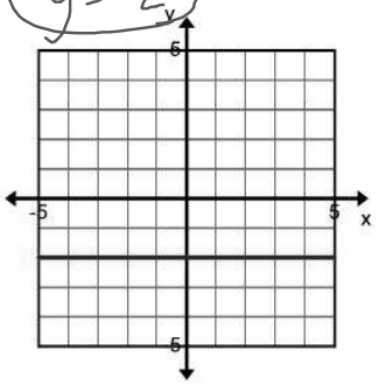
$y = \frac{1}{2}x - 2$



C. $x=4$



D. $y=-2$



Ex 5 Graph each equation.

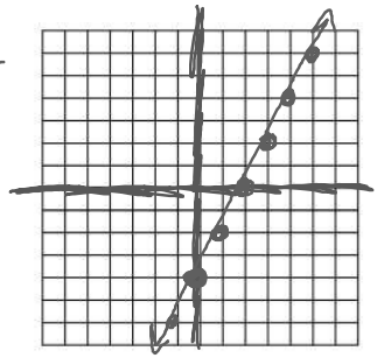
A. $y = 2x - 4$

y-int (0, -4)

Slope = 2

up 2

Right 1



B. $y = -\frac{1}{3}x + 6$

y-int (0, 6)

Slope = -⅓

Down 1

Right 3