Lesson SY - 1

Objective: Graphing Linear Equations

Homework SY-1 – NYA p.320 #4 – 7, 13 – 15, 28, 29, 32, 51, 52, 53

Do Now: Find the slope and y-intercept. 1. $y = -5x + 2$ 2. $y = 3(x + 5)$

Exam Prep: Which line passes through the origin?

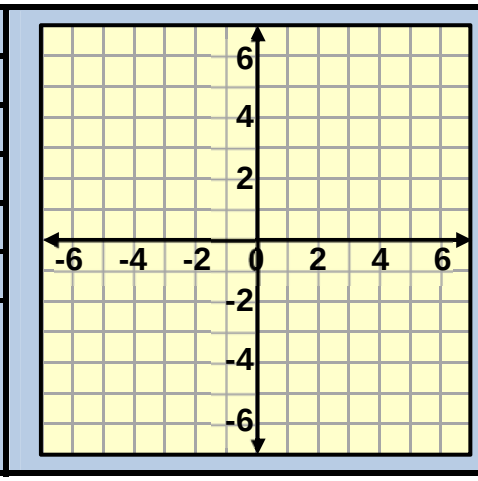
A) $y = 4x$ B) $y = -2x + 9$ C) $y = 3$ D) $y = x + 10$

Let's bring it back really quick to our past before we move into the ugliness of Systems of Equations…

We will graph lines from tables and using slope and y-intercept

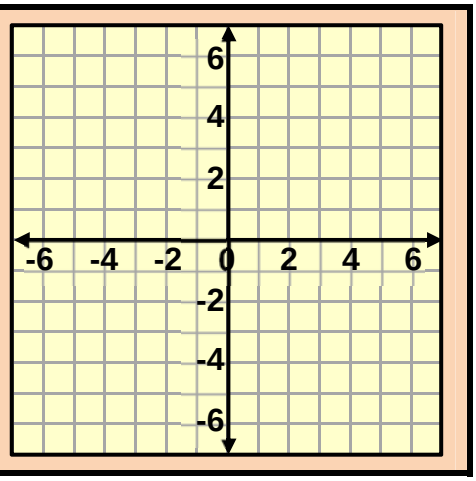
x	y
–2	–3
–1	–1
0	1
1	3
2	5

$y = 2x + 1$



x	y
–2	4
0	3
2	2
4	1
6	0

$y = -\frac{1}{2}x + 3$



REMEMBER…

Slope-Intercept Form of a Line: $y = mx + b$

b = y-intercept

m = slope

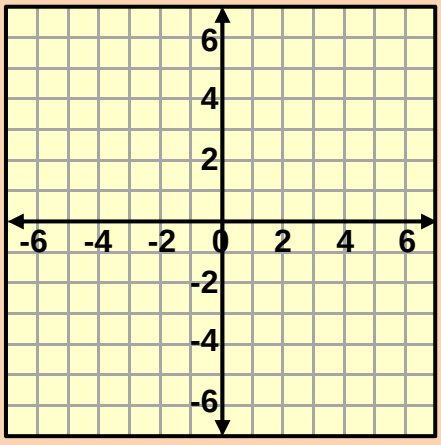
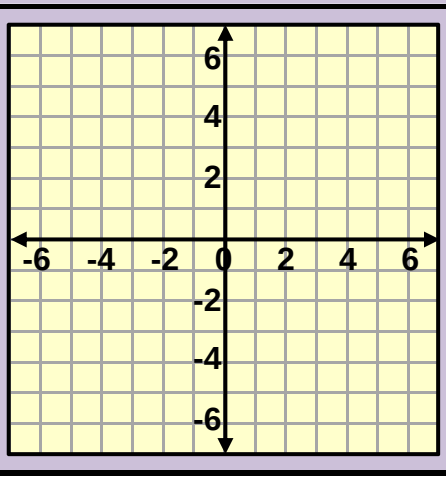
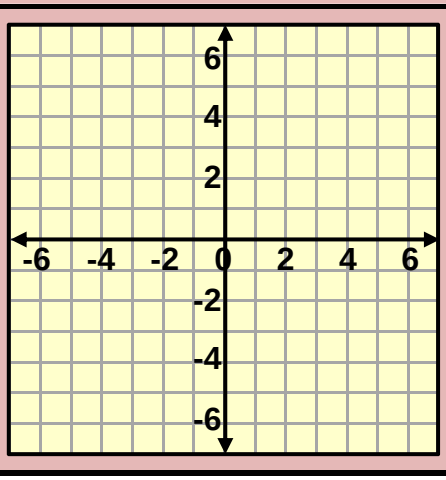
Graphing A Line Using y = mx + b

1. Arrange the equation into "y = mx + b" form. (Solve for y)
2. Plot the y-inctercept (b) on the y-axis.
3. Use the slope (m) to graph the line using $\frac{\text{rise}}{\text{run}}$ or $\frac{\text{change of y}}{\text{change of x}}$.

Practice

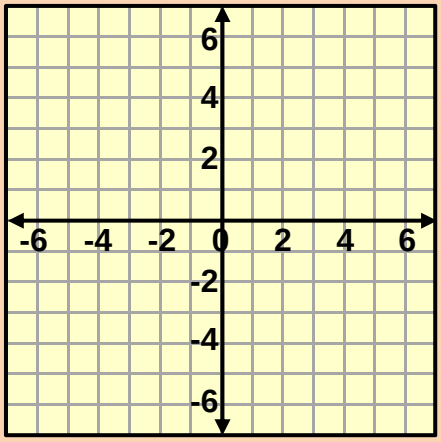
A. Make an equation	B. Find the slope (m) and y-intercept (b)
1. m = 5, b = –2	1. y = –14x + 1
2. m = $\frac{1}{2}$, b = 10	2. y = $\frac{5}{2}$x
3. m = 0, b = –9	3. 2y + 1 = 8x + 7
4. m = 7, b = 0	4. y = 2

Graph the Lines

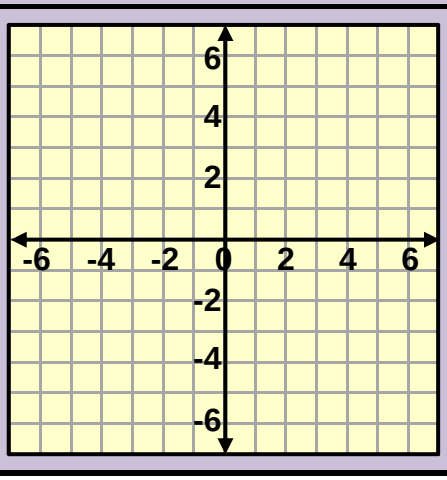
1. y = $\frac{3}{4}$x + 1	2. y = –x – 3	3. y – 2 = –2x + 1
		

MORE Graph the Lines

1. $y = -\frac{3}{2}x + 2$



2. $y + 4 = x + 4$



3. $2y = x + 6$