Look at the equations on page 23. Did you notice that the slope of each graph appears right in the equation?

$y = \textcircled{2}x - 3$ $\quad$ $y = \textcircled{\frac{1}{4}}x + 2$

$y = \textcircled{-3}x + 4$ $\quad$ $y = \textcircled{-\frac{1}{2}}x + 6$

This always happens in linear equations which have only y on one side. This means we can graph the equation by plotting only *one* point and then using the slope to draw the line.

The easiest point to plot is the point whose x-coordinate is 0. You can see why by looking at the equation $y = 2x + 5$. When $x = 0$, then $y = 5$. So the point is $(0, 5)$.

This is the point where the graph crosses the y-axis. It is called the **y-intercept**. By just looking at the equation we can see both the slope and the y-intercept.

slope $\quad$ y-intercept

$y = \textcircled{2}x + \textcircled{5}$

Write the slope and the y-intercept of the graph for each equation.

	slope	*y-intercept*
$y = 5x + 2$		
$y = \frac{1}{3}x + 6$		
$y = \frac{3}{2}x + 9$		
$y = \frac{-1}{4}x + 4$		
$y = -9x + 1$		
$y = x + 1$ ($y = 1x + 1$)		
$y = x + 6$		
$y = 2x$ ($y = 2x + 0$)		
$y = -3x$		

	slope	*y-intercept*
$y = 2x - 7$ ($y = 2x + -7$)		
$y = 3x - 1$		
$y = \frac{1}{5}x - 4$		
$y = -2x + 6$		
$y = \frac{3}{4}x - 5$		
$y = -x + 2$ ($y = -1x + 2$)		
$y = -x - 10$		
$y = \frac{1}{3}x$		
$y = \frac{-5}{3}x$		

ne: _____ Date: _____

ctions: Write the following in slope-intercept form, $y = mx + b$.

lope = 2 yintercept = 3

2. slope = −4 yintercept = 5

Ex. $y = mx + b$

slope, y-intercept

$y = 2x + 3$

e = 10 yintercept = 5

4. slope = 1/2 yintercept = 7

= 2/3 yintercept = −4

6. slope = 9 yintercept = 100

= 4 yintercept = −7

8. slope = −2 yintercept = −7