**Writing the Equation of a Line from a Graph**

One of the ways to write the equation of a line directly from a graph is to find the slope of the line (*m*) and the *y*-intercept (*b*).  These values can then be substituted into the general slope-intercept form of a line: *y* = *mx* + *b*.
For example, the slope of the line at right is *m* = , while the *y*-intercept is (0, 2). By substituting *m* =  and *b* = 2 into *y* = *mx* + *b*, the equation of the line is:



**2-59.** Consider the following tile pattern.



 a. Create an Input/Output table for the tile pattern.

 b. Write the equation for the tile pattern.

**2-50.** Solve each of the following equations.

a. 1.5*w* + 3 = 3 + 2*w* b.6*x* − 21 = 5*x* + 17 + *x*

**2-64.**  Graph each of the following equations

 on the same set of axes.

* 1. *y* = 3*x* + 5
	2. *y* = −2*x* + 10

****

**2-65.** Review what you know about graphs by answering the following questions.

1. Find the equation of the line graphed at right.
2. What are its *x*- and *y*-intercepts?