

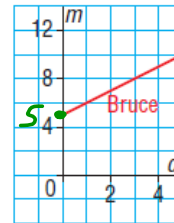
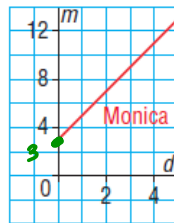
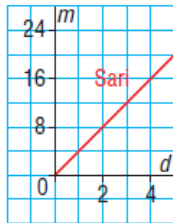
Section 4.4: Matching Eqns & Graphs

Ex #1: See pg 183

Bruce, Monica, and Sari participate in a 5-km walk for charity.

Each student has a different plan to raise money from her or his sponsors.

These graphs show how the amount of money a sponsor owes is related to the distance walked.



► Match each graph with its equation: $m = 2d + 3$ $m = 4d$ $m = d + 5$

Note 1: Since m is the first variable in all 3 equations, m is the dependent variable and its on the vertical axis. d is the independent variable and is on the horizontal axis.

Note 2: If there is no constant term in the equation, the graph passes through the origin $(0,0)$

◦◦ $m = 4d$ matches Sari's graph.

Note 3: The constant number after the variable indicates where the line starts or passes through the vertical axis.

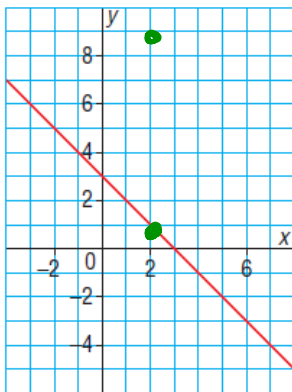
◦◦ $m = 2d + 3 \rightarrow$ Monica
 $m = d + 5 \rightarrow$ Bruce.

Ex #2: See page 184 for graphs:

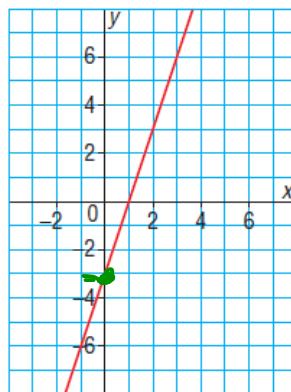
The 3 graphs below have these equations, but the graphs are not in order:

$$y = 3x + 3 \quad x + y = 3 \quad y = 3x - 3$$

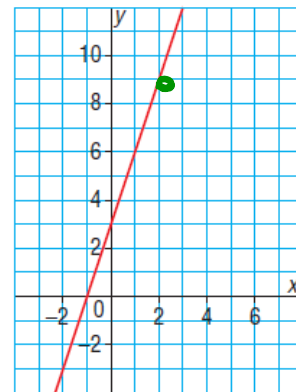
Graph A



Graph B



Graph C



* Since $y = 3x - 3$ is the only equation with a constant number of -3 , its line passes through the y -axis at -3 .

∴ $y = 3x - 3$ matches Graph B

* Since the other 2 equations both have a constant number of 3 , they both pass through 3 on the y -axis.

∴ We need to select an x -value and test each equation by finding the y -value.

$$y = 3x + 3$$

$$y = 3(2) + 3$$

$$y = 6 + 3$$

$$y = 9$$

∴ $(2, 9)$

∴ Graph C

$$x + y = 3$$

$$2 + y = 3$$

$$2 + y - 2 = 3 - 2$$

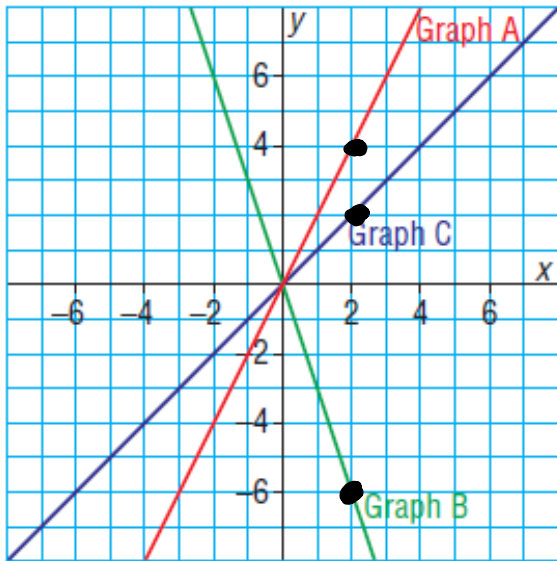
$$y = 1$$

∴ $(2, 1)$

∴ Graph A

Ex #3: See page 186

Match each graph on the grid with its equation below.



$y = x$

$y = 2x$

$y = -3x$

Note: Since none of the equations contain a constant number, their graphs all pass through the origin.

Note 2: We need to substitute an x-value into all equations to find its corresponding y-value. These points will lie on the lines of the graphs.

$y = x$

$y = 2$

$\circ \circ (2, 2)$

 $\circ \circ$ Graph C

$y = 2x$

$y = 2(2)$

$y = 4$

$\circ \circ (2, 4)$

 $\circ \circ$ Graph A

$y = -3x$

$y = -3(2)$

$y = -6$

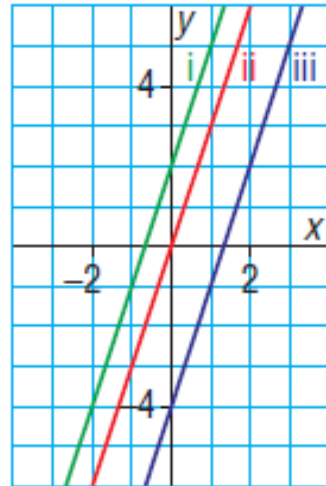
$\circ \circ (2, -6)$

 $\circ \circ$ Graph B

Ex #4: See page 1&6

Which graph on this grid has the equation $y = 3x - 4$?

Justify the answer.



Ans) The constant number in the equation is -4 . Since graph (iii) passes through -4 on the y -axis, it matches the equation.

* The point where a line passes through the y -axis is the y -intercept. This point is the constant term in your equation.

* The point where a line passes through the x -axis is called the x -intercept.

Questions:

p 188-189

3, 4, 6, 8

p 9202

11, 12, 13