Lesson 1.6.3: Finding the Equation of a Line Given the Slope and the Intercepts

The equation of a line can be determined using the following formulae:

1. Slope-Intercept Form: $y = mx + b$
2. Intercept Form: $\frac{x}{a} + \frac{y}{b} = 1$

Practice Exercises 1.6.3

A. Write the equation of the line in standard form given the slope and the y-intercept.

1. $m = 3,\ b = 2$
2. $m = \frac{3}{2},\ b = -5$
3. $m = -6,\ b = -3$
4. $m = -1,\ b = \frac{1}{2}$
5. $m = \frac{7}{2},\ b = \frac{3}{2}$

B. Write the equation of the line with the given x-intercept and y-intercept.

1. $a = 2; b = -3$
2. $a = -5; b = 8$
3. $a = -2; b = 6$
4. $(0, -2); (1, 0)$
5. $(0, 1); (3, 0)$

Activity 1.6.3

A. Write the equation of the line in standard form given the slope and the y-intercept.

1. $m = -2,\ b = 3$
2. $m = \frac{2}{3},\ b = -3$
3. $m = -5,\ b = -1$
4. $m = -3,\ b = \frac{3}{2}$
5. $m = \frac{6}{5},\ b = \frac{4}{3}$

B. Write the equation of the line with the given x-intercept and y-intercept.

1. $a = 1; b = 5$
2. $a = 3; b = -4$
3. $(3, 0); (0, 3)$
4. $(-5, 0); (0, -4)$
5. $(-6, 0); (0, 2)$

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