Linear Equations

Linear Equation: an equation in two variables which can be written in two forms:

Standard Form: Ax + By = C, where A, B, and $C \in \Re$ and A and B not both o

Slope-Intercept Form: y = mx + b, where m is the slope and b is the y-intercept, m and $b \in \Re$

Practice Exercises

A. Rewrite the following equations in the form Ax + By = C.

1.
$$y = -x + 4$$

2.
$$y = 5x + 7$$

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

4.
$$y = \frac{2}{3}x - 3$$

5.
$$y = \frac{5}{2}x + \frac{3}{2}$$

B. Rewrite the following equations in the form
$$y = mx + b$$
 and identify the values of m and b .

1.
$$2x + y = 9$$

2.
$$3x - y = 2$$

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

4.
$$-3x + 3y - 1 =$$

2.
$$3x - y = 2$$

3. $3x + \frac{1}{2}y = 4$
4. $-3x + 3y - 1 = 0$
5. $\frac{5}{2}x + \frac{2}{3}y - 5 = 0$

A. Rewrite the following equations in the form Ax + By = C.

1.
$$y = -2x + 6$$

1.
$$y = -2x + 0$$

1.
$$y = -2x + 6$$

2. $y = 3x - 8$
3. $y = \frac{1}{2}x + 3$

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

5. $y = \frac{5}{4}x + \frac{3}{8}$

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$$y = \frac{3}{4}x + \frac{3}{8}$$

B. Rewrite the following equations in the form
$$y = mx + b$$
 and identify the values of m and b .

1.
$$x + 2y = 4$$

1.
$$x + 2y = 4$$

2. $5x + 2y = 7$

3.
$$5x - 7y = 2$$

4.
$$-x - -y = 1$$

$$5. \quad \frac{2}{3}x - \frac{1}{5}y = \frac{3}{5}$$

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$$2x + y = 9$$

2.
$$3x - y = 3$$

3.
$$3x + -y - 4$$

2.
$$3x - y = 2$$

3. $3x + \frac{1}{2}y = 4$
4. $-3x + 3y - 1 = 0$
5. $\frac{5}{2}x + \frac{2}{3}y - 5 = 0$

5.
$$-x+-y-5=0$$

Problem Set

A. Rewrite the following equations in the form Ax + By = C.

$$1. \quad y = -2x + 6$$

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B. Rewrite the following equations in the form y = mx + b and identify the values of m and b.

$$1. \quad x + 2y = 4$$

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A. Rewrite the following equations in the form Ax + By = C.

1.
$$y = -2x +$$

4.
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$$3x - y = 1$$

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4.
$$-3x + 3y - 1 = 5$$

2.
$$3x - y = 2$$

3. $3x + \frac{1}{2}y = 4$
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3. $5x - 7y = 2$
4. $-\frac{2}{3}x - \frac{1}{3}y = 3$