

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 $C \in \mathfrak{R}$ 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 $b \in \mathfrak{R}$

Practice Exercises

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

1. $y = -x + 4$

2. $y = 5x + 7$

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

Problem Set

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

1. $y = -2x + 6$

2. $y = 3x - 8$

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

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

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

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

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