

## Equations of Lines

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Re-write the following equations in *slope intercept form* ( $y = mx + b$ )

1.  $3x - 8y = 24$

2.  $y - 4 = \frac{2}{3}(x + 6)$

Re-write the following equations in *general form*

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

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

Find the equation of each of the following lines:

5. The line is parallel to:  $y = 3x - 5$  and has a  $y$ -intercept of 5. Answer in *slope intercept*.
6. The line passes through  $(5, -5)$  and  $(2, 5)$ . Answer in *general form*.
7. The line has an  $x$ -intercept of 4 and  $y$ -intercept of  $-3$ . Answer in *slope intercept*.
8. The line is perpendicular to  $3x + 2y - 6 = 0$  and has an  $x$ -intercept of 4. Answer in *general form*.
9. The line is horizontal and passes through  $(3, 2)$ . Answer in *general form*.
10. The line has a slope of  $-\frac{3}{4}$  and passes through  $(3, -2)$ . Answer in *slope point*.
11. The line is parallel to AB with A  $(2, 2)$  and B  $(-3, 4)$  and goes through  $(4, 8)$ . Answer in *general form*.

**Answer Key**

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

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

3.  $4x - 5y - 10 = 0$

4.  $x - 2y - 7 = 0$

5.  $y = 3x + 5$

6.  $10x + 3y - 35 = 0$

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

8.  $2x - 3y - 8 = 0$

9.  $y - 2 = 0$

10.  $y + 2 = -\frac{3}{4}(x - 3)$

11.  $2x + 5y - 48 = 0$