

Standard Form: $Ax + By = C$

-integer coefficients

-A is positive

$$\begin{aligned}\text{Ex: } y &= \frac{1}{3}x - 4 \\ -\frac{1}{3}x + y &= -4 \\ -3\left(-\frac{1}{3}x + y\right) &= (-3)(-4) \\ x - 3y &= 12\end{aligned}$$

Write the equation in standard form.

1. $y = -3x + 9$

2. $y = 6x - 5$

3. $4x - 9y - 7 = 4$

4. $2x - 9 = y + 3$

5. $5y = 2x$

6. $4y = -7x - 16$

7. $y + 6 = 3(x - 1)$

8. $y + 4 = -4(x + 2)$

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

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

11. $y = \frac{3}{7}x + 2$

12. $y = -\frac{1}{2}x + \frac{7}{2}$

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

14. $y = \frac{5}{6}x - \frac{1}{4}$

Ex: $(0, 7)$ and $(5, 1)$

$$m = \frac{7-1}{0-5} = \frac{6}{-5} = -\frac{6}{5}$$

$$y - 7 = -\frac{6}{5}(x - 0)$$

$$y - 7 = -\frac{6}{5}x$$

$$y = -\frac{6}{5}x + 7$$

$$y = -\frac{6}{5}x + 7$$

$$\frac{6}{5}x + y = 7$$

$$5\left(\frac{6}{5}x + y\right) = 5(7)$$

$$6x + 5y = 35$$

Write the equation in slope-intercept form then change it to standard form with integer coefficients.

15. $(6, 8), m = 2$

16. $(4, 1), m = -\frac{1}{2}$

17. $(1, 5), m = \frac{4}{5}$

18. $(6, -4)$ and $(7, 1)$

19. $(10, -3)$ and $(5, -2)$

20. $(4, 9)$ and $(-2, -6)$