

Convert between degrees Fahrenheit and degrees Celsius using the literal equation given. Round to the nearest 100th.

$$C = \frac{5}{9}(F - 32)$$

1. 72°F

$$C = \frac{5}{9}(72 - 32)$$

$$C = \frac{5}{9}(40)$$

$$C \approx 22.22^\circ C$$

2. -11°F

$$C = \frac{5}{9}(-11 - 32)$$

$$C = \frac{5}{9}(-43)$$

$$C \approx -23.89^\circ C$$

From the notes (page 189)

3. 25°C

$$F = \frac{9}{5}C + 32$$

$$F = \frac{9}{5}(25) + 32$$

See page 189

$$F = 45 + 32$$

$$F = 77^\circ F$$

4. -3.4°C

$$F = \frac{9}{5}(-3.4) + 32$$

$$F = -6.12 + 32$$

$$F = 25.88^\circ F$$

Convert each equation from standard form ($Ax + By = C$) to slope-intercept form ($y = mx + b$). Then, identify the slope (m), y -intercept (b), and x -intercept.

5. $4x + 6y = 48$

slope = $-\frac{2}{3}$

y -int = $(0, 8)$

x -int = $(12, 0)$

$4x + 6y = 48$

$\begin{array}{r} -4x \\ \hline 4x + 6y = 48 \\ -4x \end{array}$

$\frac{6y}{6} = \frac{-4x + 48}{6}$

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

$4x + 6y = 48$

$y = 0$

$4x + 6(0) = 48$

$4x = 48$

$x = 12$

6. $3x - 5y = 25$

slope = $\frac{3}{5}$

y -int = $(0, -5)$

x -int = $(\frac{25}{3}, 0)$

$\begin{array}{r} 3x - 5y = 25 \\ -3x \end{array}$

$\frac{-5y}{-5} = \frac{-3x + 25}{-5}$

$y = \frac{3}{5}x - 5$

$3x - 5y = 25$

$y = 0$

$3x - 5(0) = 25$

$3x = 25$

$x = \frac{25}{3}$

7. $-x - 8y = 96$

slope = $-\frac{1}{8}$

y -int = $(0, -12)$

x -int = $(-96, 0)$

$-x - 8y = 96$

$\begin{array}{r} -x - 8y = 96 \\ +x \end{array}$

$\frac{-8y}{-8} = \frac{x + 96}{-8}$

$y = -\frac{1}{8}x - 12$

$-x - 8y = 96$

$-x - 8(0) = 96$

$-x = 96$

$x = -96$

Convert each equation from slope-intercept form ($y = mx + b$) to standard form ($Ax + By = C$).

Then, identify the slope (m), y -intercept (b), and x -intercept. Don't forget to clear the fractions!

8. $y = 5x + 8$

slope = 5

y -int = $(0, 8)$

x -int = $(-\frac{8}{5}, 0)$

$y = 5x + 8$

$\begin{array}{r} -5x \\ \hline -5x + y = 8 \end{array}$

$-5x + y = 8$

$y = 0$

$-5x + 0 = 8$

$-5x = 8$

$x = -\frac{8}{5}$

9. $y = -4x + 2$

slope = -4

y -int = $(0, 2)$

x -int = $(\frac{1}{2}, 0)$

$\begin{array}{r} y = -4x + 2 \\ +4x \end{array}$

$4x + y = 2$

$y = 0$

$4x + 0 = 2$

$4x = 2$

$x = \frac{2}{4} = \frac{1}{2}$

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

slope = $-\frac{1}{2}$

y -int = $(0, -3)$

x -int = $(-6, 0)$

$[y = -\frac{1}{2}x - 3] \times 2$

$2y = -1x - 6$

$\begin{array}{r} +1x \\ \hline 1x + 2y = -6 \end{array}$

$1x + 2y = -6$

or

$x + 2y = -6$

$y = 0$

$x + 2(0) = -6$

$x = -6$