1. Find the slope of a line parallel to the line containing the points (7, -10) and (4, 1).

\[ \text{slope} = \frac{1 - (-10)}{4 - 7} = \frac{11}{-3} = -\frac{11}{3} \]

Enter the correct value of the slope as an improper fraction in simplest form.

 Slope of parallel line = \(-\frac{11}{3}\)

2. Write the equation of the line passing through the point (-2, 1) and parallel to the line \(y = -2x + 8\).

What is the slope of a line parallel to the line \(y = -2x + 8\)?

slope = \(-2\)

Write the slope-intercept form of the equation of the line passing through the point (-2, 1) and parallel to the line \(y = -2x + 8\).

\[
y - 1 = -2 (x - (-2)) \\
y - 1 = -2 (x + 2)
\]

3. Find the slope of a line perpendicular to the line containing the points (6, -16) and (3, 1).

\[ \text{slope} = \frac{1 - (-16)}{3 - 6} = \frac{17}{-3} = -\frac{17}{3} \]

Enter the correct value of the slope in simplest form. Do not enter decimal numbers.

 Slope of perpendicular line = \(-\frac{17}{3}\)

4. Write the equation, in point-slope form, of the line perpendicular to the line \(15x + 5y = 4\) and containing the point (4, -3).

What is the slope of a line perpendicular to the line \(15x + 5y = 6\)?

slope = \(\frac{1}{3}\)

Write the equation, in point-slope form, of the line perpendicular to the line \(15x + 5y = 4\) and containing the point (4, -3).

Complete the following equation:

\[
y - (3) = \frac{1}{3} (x - 4) \]
5. Write the equation, in point-slope form, of the line perpendicular to $10x - 5y = 7$ and containing the point $\left(\frac{1}{2}, \frac{1}{2}\right)$.

$$-5y = -10x + 7$$
$$y = 2x - \frac{7}{5}$$

Complete the following equation:

$$y - \frac{1}{2} = \frac{-1}{2}(x - \frac{1}{2})$$

Slope of perpendicular line = $-\frac{1}{2}$