

Linear Equations in Two Variables

1. Write each equation in standard form and in slope-intercept form. Identify the slope and the y -intercept.

a) $6y = -2x - 13$

b) $x = \frac{2}{5}y + 7$

c) $3x = 7y$

2. Write an equation in slope-intercept form for the line that contains the given point and the given slope.

a) $m = -4$, $(-2, -5)$

b) $m = \frac{1}{3}$, $(2, -4)$

c) $m = 0$, $(1, 7)$

d) $m = \text{undefined}$, $(0, -4)$

3. Write an equation in slope-intercept form for the line that contains the given points.

a) $(-7, -3)$, $(6, 8)$

b) $(-3, 4)$, $(-3, 7)$

c) $(0, 8)$, $(2, 8)$

4. Determine whether the lines L_1 and L_2 are parallel, perpendicular or neither.

a) $L_1 : (4, 8)$, $(-4, 2)$

$L_2 : (3, -5)$, $\left(-1, \frac{1}{3}\right)$

b) $L_1 : (0, -7)$, $(2, -3)$

$L_2 : (-1, -1)$, $(5, 11)$

c) $L_1 : (4, 1)$, $(-4, -15)$

$L_2 : (-12, -5)$, $(6, 4)$

5. Write the slope-intercept form of the equation of the line through the given point that is parallel and perpendicular to the given line.

a) Point: $(-5, 1)$

Line: $x + y = 8$

b) Point: $(4, -3)$

Line: $y = -7$

c) Point: $\left(\frac{1}{2}, 2\right)$

Line: $x = 6$