Linear Equations (I)

Use the given points to determine the slope using $\frac{y_2-y_1}{x_2-x_1}$

Determine the y-intercept using $b = y - mx$. Write the equation in $y = mx + b$ form.

1. Points: $(-7, -1)$ $(1, -3)$

2. Points: $(-7, -9)$ $(3, 6)$

3. Points: $(-5, 9)$ $(-9, 9)$

4. Points: $(-3, 5)$ $(-7, -3)$

5. Points: $(-7, 7)$ $(-5, 6)$

6. Points: $(7, 4)$ $(-7, 2)$

7. Points: $(-4, 7)$ $(2, 6)$

8. Points: $(-3, -9)$ $(-9, -8)$

9. Points: $(-6, 8)$ $(-9, -4)$

10. Points: $(7, 0)$ $(6, -3)$

Linear Equations (I) Answers

Use the given points to determine the slope using $\frac{y_2-y_1}{x_2-x_1}$

Determine the y-intercept using $b = y - mx$. Write the equation in $y = mx + b$ form.

1. Points: $(-7, -1)$ $(1, -3)$

$m = \frac{-3-(-1)}{1-(-7)} = \frac{-2}{8} = -\frac{1}{4}$

$b = -1 - (-\frac{1}{4}(-7)) = -2\frac{3}{4}$

$y = -\frac{1}{4}x - 2\frac{3}{4}$

2. Points: $(-7, -9)$ $(3, 6)$

$m = \frac{6-(-9)}{3-(-7)} = \frac{15}{10} = \frac{3}{2}$

$b = -9 - \frac{3}{2}(-7) = 1\frac{1}{2}$

$y = \frac{3}{2}x + 1\frac{1}{2}$

3. Points: $(-5, 9)$ $(-9, 9)$

$m = \frac{9-9}{-9-(-5)} = \frac{0}{-4} = 0$

$b = 9 - 0(-5) = 9$

$y = 9$

4. Points: $(-3, 5)$ $(-7, -3)$

$m = \frac{-3-5}{-7-(-3)} = \frac{-8}{-4} = 2$

$b = 5 - 2(-3) = 11$

$y = 2x + 11$

5. Points: $(-7, 7)$ $(-5, 6)$

$m = \frac{6-7}{-5-(-7)} = \frac{-1}{2} = -\frac{1}{2}$

$b = 7 - (-\frac{1}{2}(-7)) = 3\frac{1}{2}$

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

6. Points: $(7, 4)$ $(-7, 2)$

$m = \frac{2-4}{-7-7} = \frac{-2}{-14} = \frac{1}{7}$

$b = 4 - \frac{1}{7}(7) = 3$

$y = \frac{1}{7}x + 3$

7. Points: $(-4, 7)$ $(2, 6)$

$m = \frac{6-7}{2-(-4)} = \frac{-1}{6} = -\frac{1}{6}$

$b = 7 - (-\frac{1}{6}(-4)) = 6\frac{1}{3}$

$y = -\frac{1}{6}x + 6\frac{1}{3}$

8. Points: $(-3, -9)$ $(-9, -8)$

$m = \frac{-8-(-9)}{-9-(-3)} = \frac{1}{-6} = -\frac{1}{6}$

$b = -9 - (-\frac{1}{6}(-3)) = -9\frac{1}{2}$

$y = -\frac{1}{6}x - 9\frac{1}{2}$

9. Points: $(-6, 8)$ $(-9, -4)$

$m = \frac{-4-8}{-9-(-6)} = \frac{-12}{-3} = 4$

$b = 8 - 4(-6) = 32$

$y = 4x + 32$

10. Points: $(7, 0)$ $(6, -3)$

$m = \frac{-3-0}{6-7} = \frac{-3}{-1} = 3$

$b = 0 - 3(7) = -21$

$y = 3x - 21$