Linear Equations (H)

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: $(5, 3)$ $(-4, -6)$

2. Points: $(-8, 4)$ $(1, 3)$

3. Points: $(-4, -1)$ $(-6, 2)$

4. Points: $(6, 2)$ $(3, 3)$

5. Points: $(-9, -2)$ $(-4, 3)$

6. Points: $(8, -2)$ $(-3, -6)$

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

8. Points: $(3, 0)$ $(8, -8)$

9. Points: $(8, 0)$ $(-4, -3)$

10. Points: $(8, 1)$ $(9, -3)$

Linear Equations (H) 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: $(5, 3)$ $(-4, -6)$

$m = \frac{-6-3}{-4-5} = \frac{-9}{-9} = 1$

$b = 3 - 1(5) = -2$

$y = x - 2$

2. Points: $(-8, 4)$ $(1, 3)$

$m = \frac{3-4}{1-(-8)} = \frac{-1}{9} = -\frac{1}{9}$

$b = 4 - (-\frac{1}{9}(-8)) = 3\frac{1}{9}$

$y = -\frac{1}{9}x + 3\frac{1}{9}$

3. Points: $(-4, -1)$ $(-6, 2)$

$m = \frac{2-(-1)}{-6-(-4)} = \frac{3}{-2} = -\frac{3}{2}$

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

$y = -\frac{3}{2}x - 7$

4. Points: $(6, 2)$ $(3, 3)$

$m = \frac{3-2}{3-6} = \frac{1}{-3} = -\frac{1}{3}$

$b = 2 - (-\frac{1}{3}(6)) = 4$

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

5. Points: $(-9, -2)$ $(-4, 3)$

$m = \frac{3-(-2)}{-4-(-9)} = \frac{5}{5} = 1$

$b = -2 - 1(-9) = 7$

$y = x + 7$

6. Points: $(8, -2)$ $(-3, -6)$

$m = \frac{-6-(-2)}{-3-8} = \frac{-4}{-11} = \frac{4}{11}$

$b = -2 - \frac{4}{11}(8) = -4\frac{10}{11}$

$y = \frac{4}{11}x - 4\frac{10}{11}$

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

$m = \frac{-9-(-2)}{-7-(-2)} = \frac{-7}{-5} = \frac{7}{5}$

$b = -2 - \frac{7}{5}(-2) = \frac{4}{5}$

$y = \frac{7}{5}x + \frac{4}{5}$

8. Points: $(3, 0)$ $(8, -8)$

$m = \frac{-8-0}{8-3} = \frac{-8}{5} = -\frac{8}{5}$

$b = 0 - (-\frac{8}{5}(3)) = 4\frac{4}{5}$

$y = -\frac{8}{5}x + 4\frac{4}{5}$

9. Points: $(8, 0)$ $(-4, -3)$

$m = \frac{-3-0}{-4-8} = \frac{-3}{-12} = \frac{1}{4}$

$b = 0 - \frac{1}{4}(8) = -2$

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

10. Points: $(8, 1)$ $(9, -3)$

$m = \frac{-3-1}{9-8} = \frac{-4}{1} = -4$

$b = 1 - (-4(8)) = 33$

$y = -4x + 33$