

February 9, 2015

9.1 | 3.2 | 3.3 | 3.4 |

Feb 9-10:56 AM

Steps to find the equation of a line given two ordered pairs (Points) using Slope-Intercept form:  $y = mx + b$

- 1) Quick Graph to determine if slope is positive or negative
- 2) Calculate Slope:  $m = \frac{y_2 - y_1}{x_2 - x_1}$
- 3) find "b" of  $y = mx + b$
- 4) write the equation
  - a.) In Slope-Intercept form
  - b.) In Standard form
- 5) Check the equation using the other ordered pair.

Feb 9-11:05 AM

$(-7, 5) \neq (-3, -8)$

- 1)
- 2)  $m = \frac{(-8) - (5)}{(-3) - (-7)} = -\frac{13}{4}$
- 3)  $y = -mx + b$   
 $(5) = -\frac{13}{4}(-7) + b$   
 $\frac{5}{1} = \frac{91}{4} + b$   
 $-\frac{91}{4} = b$   
 $\frac{5}{1} - \frac{91}{4} = b$   
 $\frac{20 - 91}{4} = b$   
 $-\frac{71}{4} = b$
- 4) a)  $y = mx + b$   
 $y = -\frac{13}{4}x - \frac{71}{4}$   
 b)  $4(y = -\frac{13}{4}x - \frac{71}{4})$   
 $4y = -13x - 71$   
 $13x + 4y = -71$

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Check  $y = -\frac{13}{4}x - \frac{71}{4}$  using  $(-3, -8)$

$$-8 = \left[-\frac{13}{4} \cdot \frac{-3}{1}\right] - \frac{71}{4}$$

$$-8 = \frac{39}{4} - \frac{71}{4}$$

$$-8 = \frac{39 - 71}{4} = -\frac{32}{4} = -8$$

Feb 9-11:23 AM

$(-11, -3) \neq (6, -9)$

- 1)
- 2)  $m = \frac{(-9) - (-3)}{(6) - (-11)} = -\frac{6}{17}$
- 3)  $-3 = \left[-\frac{6}{17} \cdot \frac{-11}{1}\right] + b$   
 $-3 = \frac{66}{17} + b$   
 $\left(\frac{-3}{1}\right) + \left(\frac{-66}{17}\right) = b$   
 $\frac{-51 - 66}{17} = b$   
 $-\frac{117}{17} = b$
- 4)  $y = -\frac{6}{17}x - \frac{117}{17}$   
 $17y = -6x - 117$   
 $6x + 17y = -117$

Feb 9-11:32 AM

$(-8, 7) \neq (4, -9)$

$(-2, 14) \neq (-7, -5)$

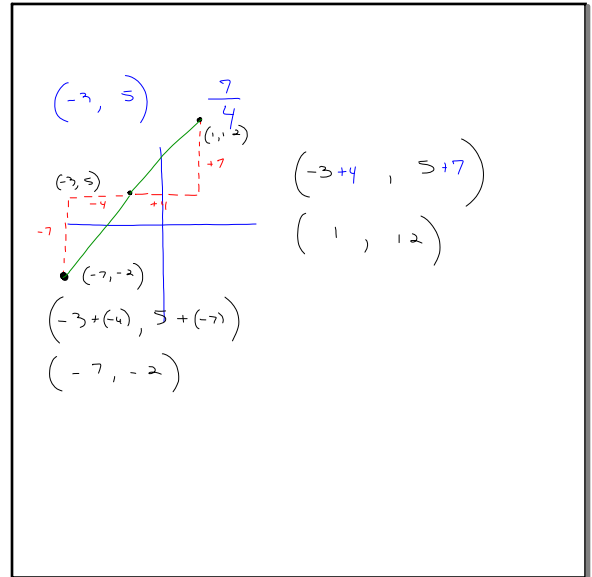
$(3, -5) \neq (-8, -7)$

$(-4, 0) \neq (-21, 4)$

Feb 9-11:49 AM

$$\begin{array}{l}
 x_1, y_1, x_2, y_2 \quad \& \quad x_1, y_1, x_2, y_2 \\
 (5, 8) \quad \& \quad (11, 3) \\
 \\
 \left. \begin{array}{l}
 \Delta y = 3 - 8 = -5 \\
 \Delta x = 11 - 5 = 6
 \end{array} \right\} \\
 \\
 \left. \begin{array}{l}
 \Delta y = 8 - 3 = 5 \\
 \Delta x = 5 - 11 = -6
 \end{array} \right\} \\
 \\
 \frac{\Delta y}{\Delta x} = \frac{-5}{6} = -\frac{5}{6} \\
 \frac{\Delta y}{\Delta x} = \frac{5}{-6} = -\frac{5}{6}
 \end{array}$$

Feb 9-11:56 AM



Feb 9-12:02 PM