2.4 Notes

Wednesday, June 19, 2019 8:48 AM

Steps

1. slope
2. y-int
3. $y=mx+b$
4. move x
5. eliminate fractions
6. x must be positive

ex Given two points: $(-3,2)$ and $(6,-1)$ (x_1, y_1 and x_2, y_2)

1. $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-1-2}{6-(-3)} = \frac{-3}{9} = \boxed{-\frac{1}{3}}$
2. $y = -\frac{1}{3}x + b$

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

   $2 = 1 + b$ $\quad \boxed{b=1}$
3. $\boxed{y = -\frac{1}{3}x + 1}$
4. $y = -\frac{1}{3}x + 1$

   $+\frac{1}{3}x \quad +\frac{1}{3}x$
5. $3\left(\frac{1}{3}x + y = 1\right)$

   $x + 3y = 3$
6. $\boxed{x + 3y = 3}$

ex Given a table of values:

x	3	1	2	-1	-2
y	10	2	6	-6	-10

(3,10) (1,2) (2,6) (-1,-6) (-2,-10)

$y = 4x - 2$

$4x - y = 2$

ex Given that the line is perpendicular to $y = -2x + 3$ and goes through the point $(4, 1)$ (x_1, y_1)

1. slope: $y = -2x + 3$

   slope $= -2$

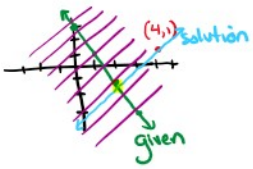
   slope $= \frac{1}{2}$
2. y-int: $y = \frac{1}{2}x + b$

   $1 = \frac{1}{2}(4) + b$

   $1 = 2 + b \rightarrow b = -1$
3. $\boxed{y = \frac{1}{2}x - 1}$
4. $y = \frac{1}{2}x - 1$

   $-\frac{1}{2}x \quad -\frac{1}{2}x$
5. $2\left(-\frac{1}{2}x + y = -1\right)$

   $-1x + 2y = -2$
6. $\boxed{x - 2y = 2}$


(4,1)
solution
given


solution