Today's Plan:

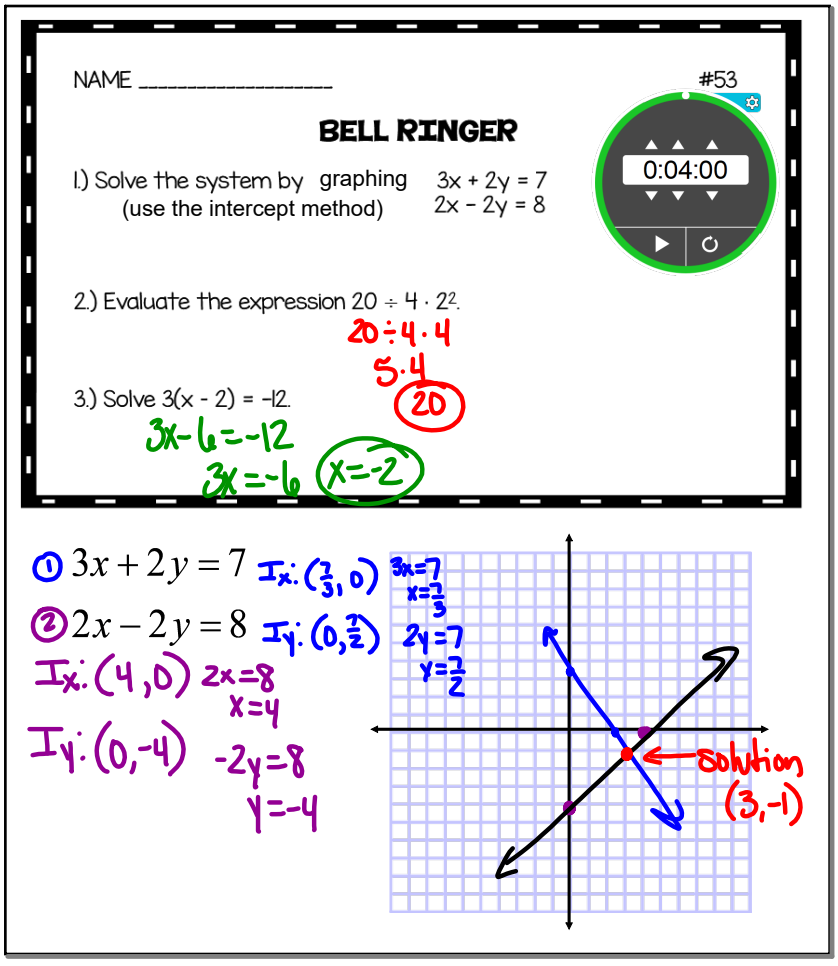
Learning Target (standard): I will graph linear equations using a t-chart, the slope-intercept method. point-slope method and the intercept method.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.



Graph using the slope-intercept method.

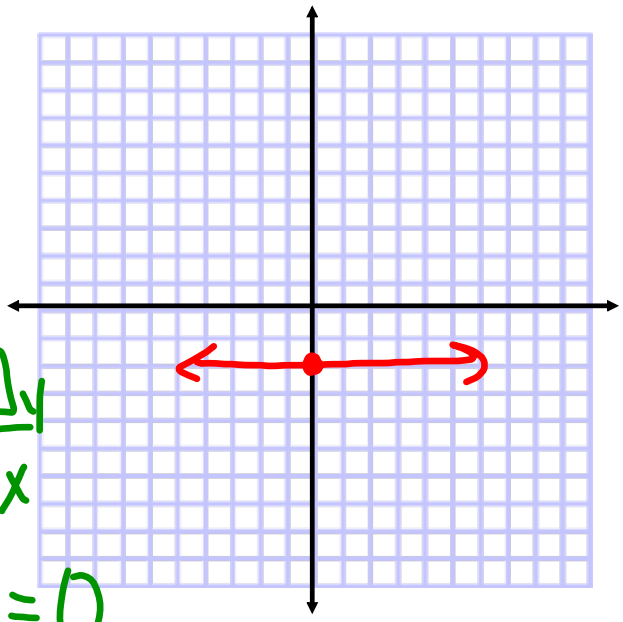
$$4y - 4 = -12$$
$$+4 \qquad +4$$

$4y = -8$

$y = -2$ $\quad m = \frac{\Delta y}{\Delta x}$

$m = 0$

$I_y: (0, -2)$ $\quad \Delta y = 0$



Graph using the t-chart method.

$$-2x + 4y = 8$$
$$+2x \qquad +2x$$

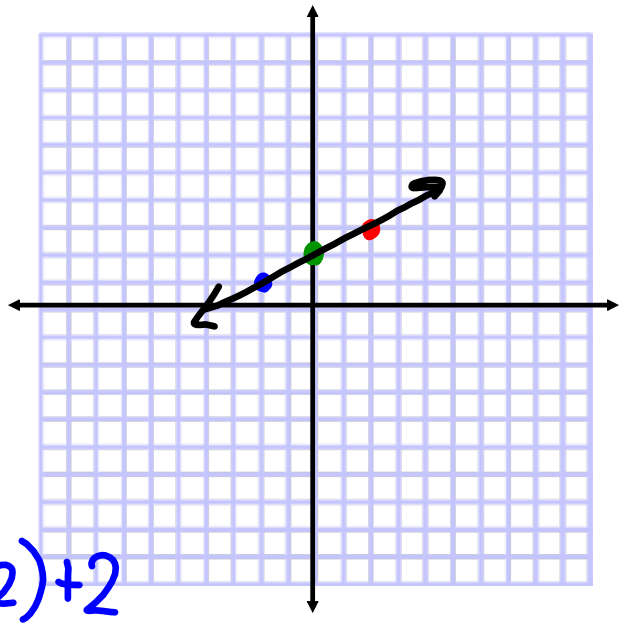
$\frac{4y}{4} = \frac{2x}{4} + \frac{8}{4}$

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

x	y
-2	1
0	2
2	3

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

$y = \frac{1}{2}(2) + 2$



Write the standard form of the equation.

$(-1,2)$ & $(-2,6)$

$m = \frac{y_2 - y_1}{x_2 - x_1}$

$= \frac{6-2}{-2+1}$

$= \frac{4}{-1}$

$m = -4$

$y = mx + b$

$2 = -4(-1) + b$

$2 = 4 + b$

$b = -2$ $y = -4x - 2$

$4x + y = -2$

Graph using the intercept method.

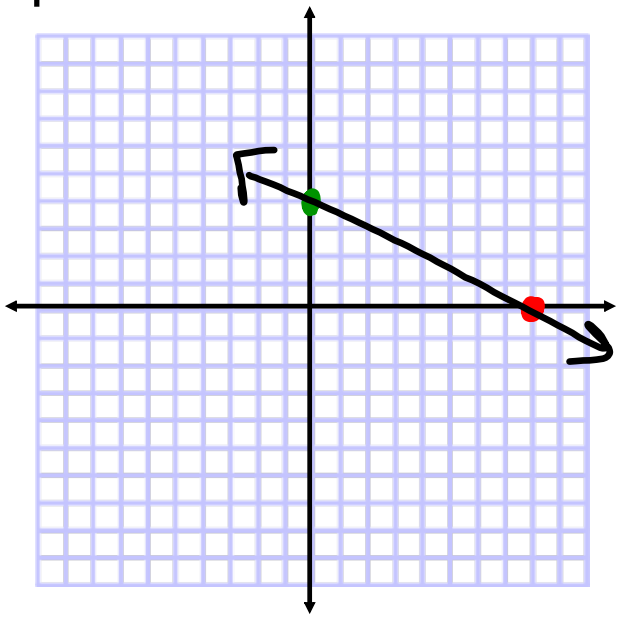
2 $\left(y = -\frac{1}{2}x + 4\right)$

$2y = -x + 8$

$x + 2y = 8$

I_x: $(8, 0)$ $x = 8$

I_y: $(0, 4)$ $2y = 8$



Find the equation for the line perpendicular to the given and passing through the indicated point. Write the equation in point-slope form, slope-intercept form and standard form.

$5x-2y=8$

passes through (3,4)

$m_\perp = -\frac{2}{5}$

$5x-2y=8$

$-5x \quad -5x$

$\frac{-2y}{-2} = \frac{-5x}{-2} + \frac{8}{-2}$

$y = \frac{5}{2}x - 4$

$m = \frac{5}{2}$

① $y-4=-\frac{2}{5}(x-3)$

point-slope form

② $y-4=-\frac{2}{5}x+\frac{6}{5}$ $\quad \frac{6}{5}+\frac{20}{5}$

$+4 \quad +4$

$y=-\frac{2}{5}x+\frac{26}{5}$

Slope-intercept form

③ $5\left(y=-\frac{2}{5}x+\frac{26}{5}\right)$

$5y=-2x+26$

$2x+5y=26$

Standard form

Use the 6-step process to decribe the rate of change.

The total cost, including shipping, for ordering five uniforms is $66. The total cost, including shipping, for ordering nine uniforms is $114.

① independent - # of uniforms

dependent - cost ($)

② $RoC = \frac{\Delta \text{dependent}}{\Delta \text{independent}}$

③ $RoC = \frac{\Delta \text{cost (\$)}}{\Delta \text{\# of uniforms}}$

④ $RoC = \frac{\$114 - \$66}{9 - 5 \text{ uniforms}}$

⑤ $RoC = \frac{\$48}{4} = \frac{\$12}{1 \text{ uniform}}$

⑥ Every uniform costs $12.

Graph using the slope-intercept method.

$$-2x-4=6$$
$$+4 \quad +4$$

$-2x = 10$

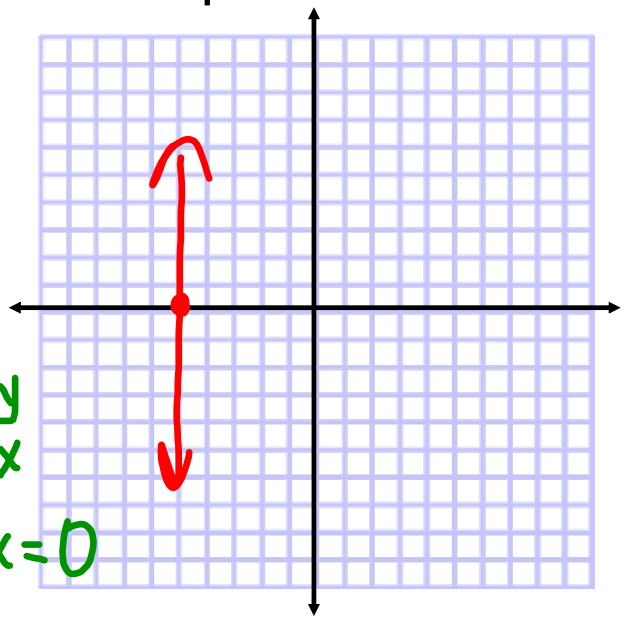
$\boxed{x=-5}$

$m = \text{und}$

$I_x: (-5, 0)$

$m = \frac{\Delta y}{\Delta x}$

$\Delta x = 0$



Find the equation for the line parallel to the given and passing through the indicated point. Write the equation in point-slope form, slope-intercept form and standard form.

$-2x+3y=9$

passes through (-4,2)

$m_{//} = \frac{2}{3}$

① $y-2=\frac{2}{3}(x+4)$ point-slope form

② $y-2=\frac{2}{3}(x+4)$

$y-2=\frac{2}{3}x+\frac{8}{3}$ $\quad \frac{8}{3}+\frac{6}{3}$

$+2 \quad +2$

$\boxed{y=\frac{2}{3}x+\frac{14}{3}}$ Slope-intercept form

$-2x+3y=9$

$+2x \quad +2x$

$\frac{3y}{3}=\frac{2x}{3}+\frac{9}{3}$

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

$m=\frac{2}{3}$

③ $-3\left(y=\frac{2}{3}x+\frac{14}{3}\right)$

$-3y=2x-14$

$\boxed{2x-3y=-14}$ Standard form

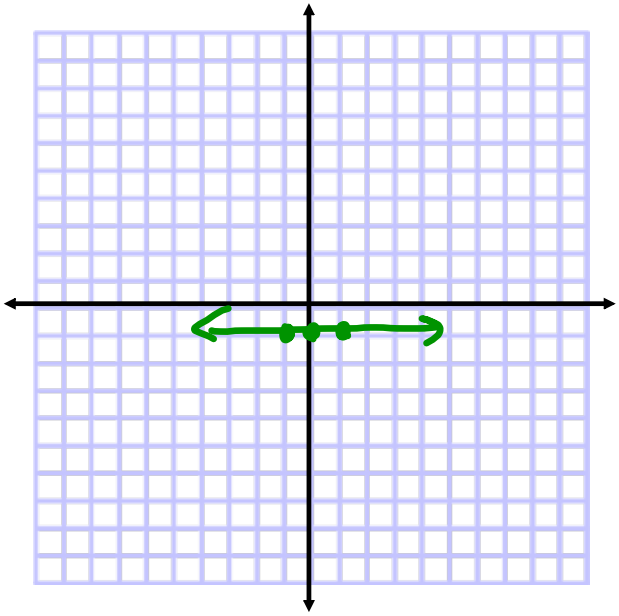
Graph using the t-chart method.

$$-6y+3=9$$
$$-3 \quad -3$$

$$-6y=6$$

$$y=-1$$

x	y
-1	-1
0	-1
1	-1

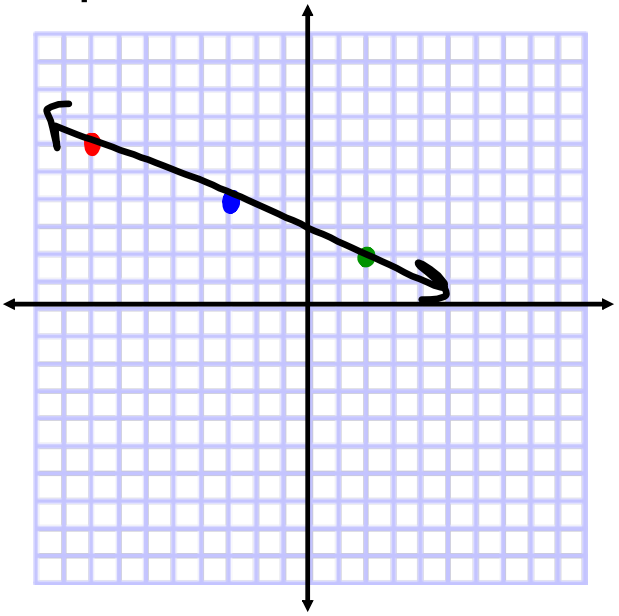


Graph using the point-slope method.

$$y-4=-\frac{2}{5}(x+3)$$

$m = -\frac{2}{5}$

(x, y): $(-3, 4)$



Assignment:

Linear Equations Review

#1-17