May 21st

Back of pink sheet #1

$m = 2$ $(3, 4)$ $(4, k)$

(x_1, y_1) (x_2, y_2)

Find k

$$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{k - 4}{4 - 3}$$

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

$$2+4 = k-4+4$$

From previous page

$$2+4=k$$

$$k=6$$

P. 418 Point-Slope Form MAY 21

1. point $(1, 2)$ $m = 5$ (x_1, y_1)

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

$$5 \stackrel{(x-1)}{=} \frac{y - 2}{x - 1}$$

$$5(x-1) = y - 2$$

$$y - 2 = 5(x-1)$$

is the point slope equation

3) $(-4, 1)$ $m = 1$

x_1, y_1

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

$$1 = \frac{y_2 - 1}{x_2 + 4}$$

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

$$y - 1 = x + 4$$

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

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

$$x + 4 = y - 1$$

$$y - 1 = x + 4$$

5. $(-3,-2)$ $m=-3$ (on board)

25. $(-3,4)$ $m=\frac{1}{2}$

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

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

$2(y-4)=x+3$

$2y+8$ $2y$

$2y-8=x+3$ $+8$

$0=x-2y+11$

is the standard form.

Standard Form FAQs

↳ x is always positive

↳ no fractions

5. $(-3,-2)$ $m=-3$

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

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

$$y+2=-3x-9$$

20. $(0,7)$ $m=-1$

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

$\frac{-1}{1}=\frac{y-7}{x-0}$

$y-7=-x+0$

$\rightarrow y-7=-x+0$

$0=x-y+7$

22. (5, 4) $m = 0$

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

$$\frac{0}{-5} = \frac{y-4}{-5}$$

$$y - 1 = 0 - 0$$

$$y^{-y+1} = 0^{-0+1}$$

$$0 = 0 - y + 1$$

28. $(-2, 1)$ $m = -1.5$

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

$$\frac{-1.5}{1} = \frac{y-1}{x+2}$$

$$y - 1 = -1.5x - 3$$

$$0 = -1.5x - y - 2 \quad (-10)$$

$$0 = 15x + 10y + 20$$

29. (1, 5) $m = 1$

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

$$\frac{1}{1} \rightarrow \frac{y-5}{x-1}$$

$$y - 5 = x - 1$$

$+5$ $+5$

$$y = x + 4$$

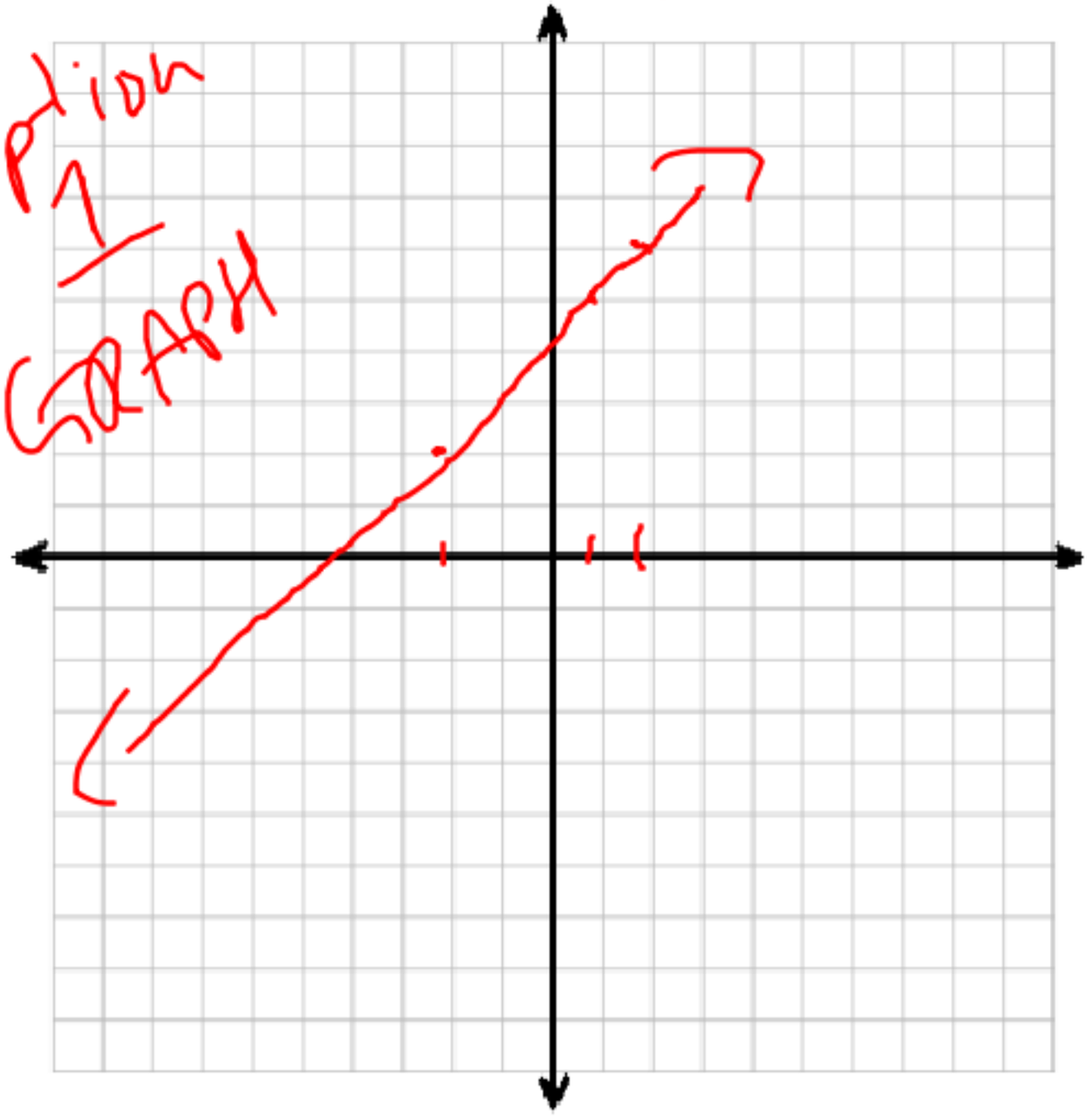
x	y
-2	2
1	5
2	6

$\therefore (-2, 2)$ & $(1, 5)$

Checking our answer

Option 1

GRAPH



Option 2

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

HOMEWORK

- Box 3 page 48 #2-32

- Handout

page 408 #12a)

Given

	y_1	y_2
y	960m	1680m
x	x_1 28s	x_2 49s

$$\frac{m}{s} \Rightarrow \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1680 - 960}{49 - 28}$$

$$= \frac{720}{21}$$

$$= 342.8 \text{ m/s}$$

$$= 343 \text{ m/s}$$