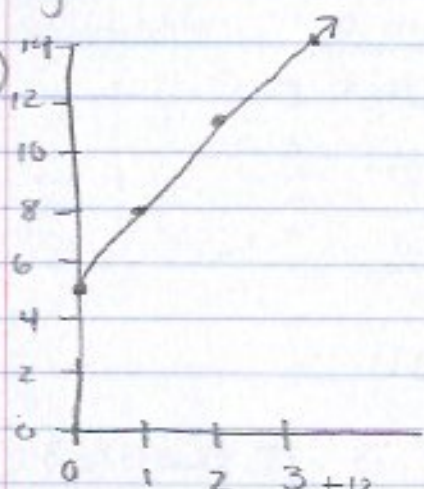


Pg. 243(8-20)

8



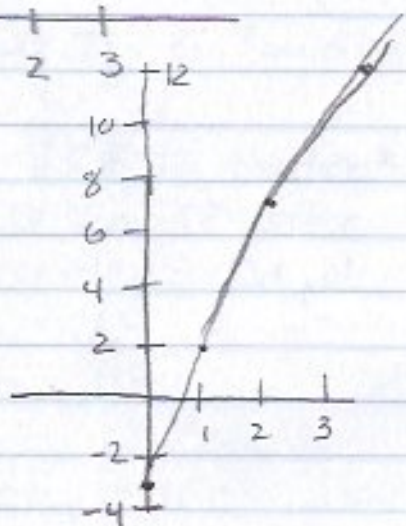
$$y = 3x + 5$$

↑                    ↑  
slope                    y-int

Start with 5 and add 3 as x increases by 1.

yes

9



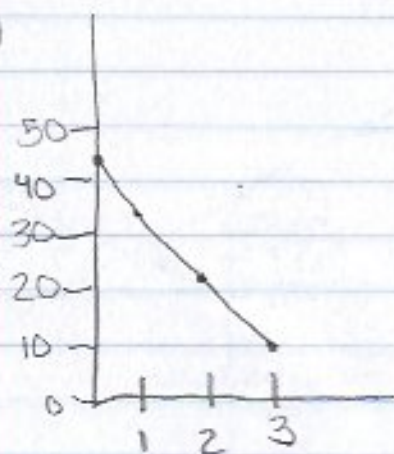
$$y = 5x - 3$$

↑                    ↑  
slope                    y-int

Start with -3, then add 5 as x increases by 1.

yes

10



$$y = -11x + 43$$

↑                    ↑  
slope                    y-int

Start with 43, subtract 11 for as x increases by 1.

yes

11

x	y
0	1127
1	1219
2	1311
3	1403

Slope =  $\frac{\text{Change in } y}{\text{Change in } x}$

$$\frac{1219 - 1127}{1 - 0}$$

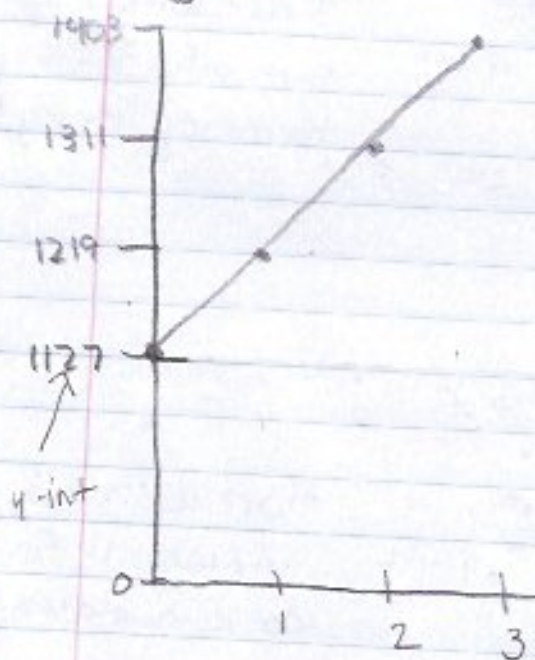
$$\frac{1311 - 1219}{2 - 1}$$

$$\frac{1403 - 1311}{3 - 2}$$

\* consistent slope

$$y = 92x + 1127$$

\* start at 1127  
add 92 as x increases by 1.



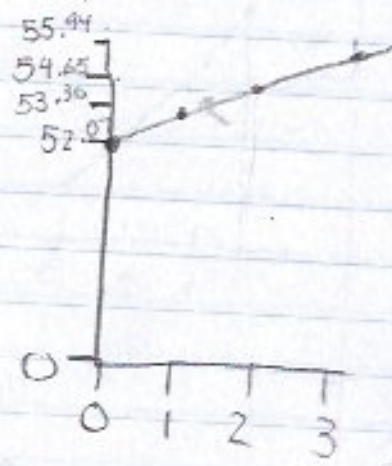
12

x	y
0	52.07
1	53.36
2	54.65
3	55.94

$$\frac{53.36 - 52.07}{1 - 0}$$

$$\frac{54.65 - 53.36}{2 - 1}$$

$$\frac{55.94 - 54.65}{3 - 2}$$



\* consistent slope, so it is a linear function  
yes

$$* y = 1.29x + 52.07$$

Start @ 52.07 and add 1.29 as x increases by 1.



13

x	y
0	11.2
17	10.2
34	9.2
51	8.2

$\frac{11.2 - 10.2}{0 - 17} = \frac{1}{-17} = -\frac{1}{17}$   
 $\frac{10.2 - 9.2}{17 - 34} = \frac{1}{-17} = -\frac{1}{17}$   
 $\frac{9.2 - 8.2}{34 - 51} = \frac{1}{-17} = -\frac{1}{17}$

\* constant slope, so yes  
 \* start @ 11.2, subtract 1 for every time x increases by 17  
 $y = -\frac{1}{17}x + 11.2$

14

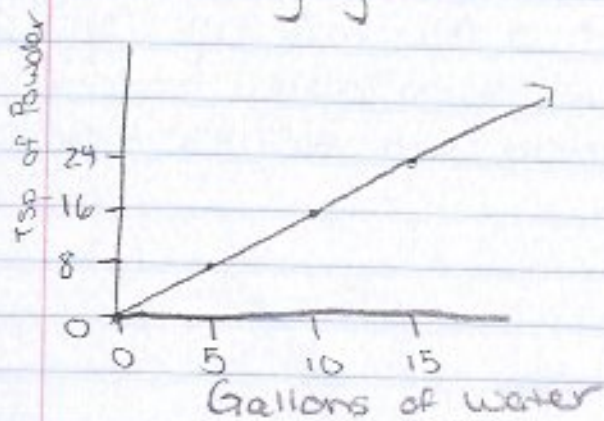
Gal of water x	Tsp of Powder y
5	8
0	0
10	16
15	24

slope  $\frac{\text{rise}}{\text{run}} = \frac{8}{5}$

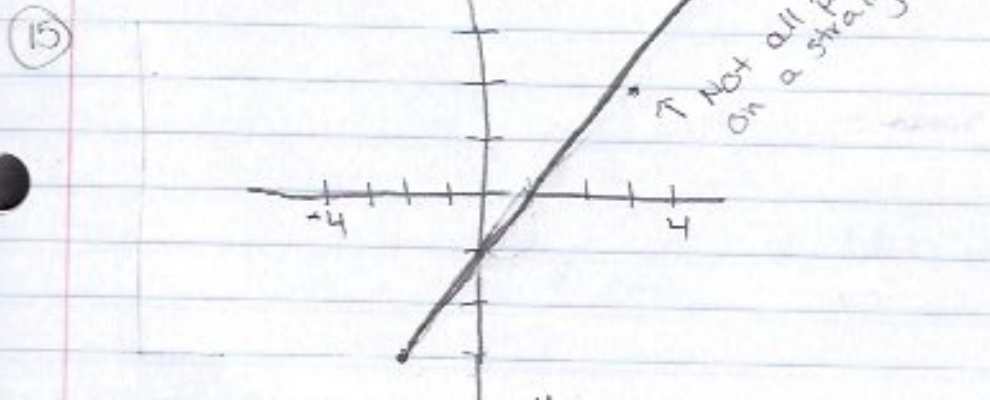
$y = \frac{8}{5}x$

pick multiples of 5 to substitute in for x so you avoid fractions.

For every gal of water, you need  $1\frac{3}{5}$  tsp of powder



yes, it is a linear function as there is a single, unique val for x.



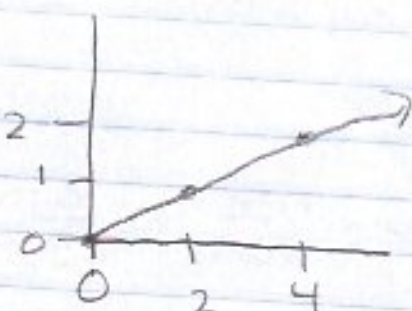
- 16) If you turn Gear B one full turn, Gear A will only make  $\frac{1}{2}$  a turn.

A is dependent on B. So,  $A = DV$  and  $B = IV$ .

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

x	y
0	0
2	1
4	2

Turns of Gear A



Turns of Gear B

- 17) 40 mi  $\rightarrow$  battery  
50 mi  $\rightarrow$  1 gal

x	y
Gas Used	Distance
0	40
1	90
2	140

$\left. \begin{array}{l} 50 \\ 50 \end{array} \right\} \frac{50}{1}$

$$y = 50x + 40$$

18)

x	y
octagons	Perimeter
1	8
2	14
3	20

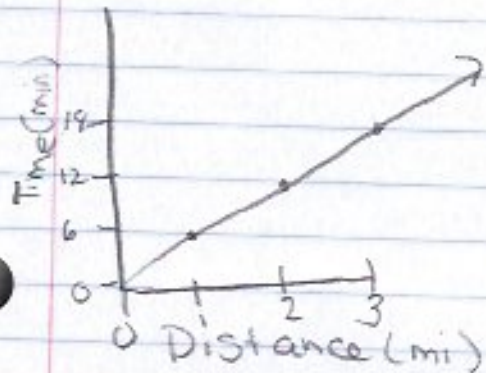
$\left. \begin{array}{l} +6 \\ +6 \end{array} \right\} \text{add } 6$



19) Flip the variables

original	X	Y	→ flip	X	Y
	6	1		1	6
	12	2		2	12
	18	3		3	18

$y = 6x$



20) yes, you can use either quantity as the ind var. No matter which quantity you choose as the ind var, there will only be one output for each input.