

2) Given  $y = 3x + 12$  find the x and y intercepts

Remember  
To find x-intercept let  $y = 0$

$$y = 3x + 12$$

$$0 = 3x + 12$$

need x alone

$$0^{-12} = 3x + 12 - 12$$

$$-12 = 3x$$

$$\frac{-12}{3} = \frac{3x}{3}$$

$$\boxed{-4 = x}$$

$$\begin{matrix} (-4, 0) \\ x \quad y \end{matrix}$$

To find y-intercept, let  $x = 0$

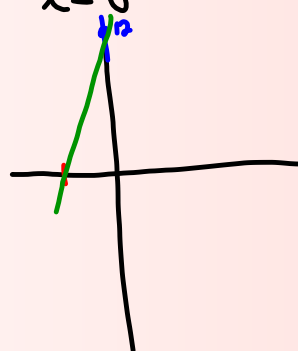
$$y = 3x + 12$$

$$y = 3(0) + 12$$

$$= 0 + 12$$

$$\boxed{y = 12}$$

$$\begin{matrix} (0, 12) \\ x \quad y \end{matrix}$$



Given  $\{(5, 10), (11, 22), (17, 34), (29, 58)\}$

Determine if the data is linear

$\Delta x$	Indep X	Dependent y	$\Delta y$
6	5	10	12
6	11	22	12
12	17	34	24
	29	58	

$$\frac{\Delta y}{\Delta x} = \frac{12}{6} = 2$$

$$\frac{\Delta y}{\Delta x} = \frac{24}{12} = 2$$

} same then linear

Study for  
CHAPTER 5 TEST Thursday



$$Rate = \frac{\Delta y}{\Delta x} = \frac{\text{rise} \uparrow}{\text{run} \leftrightarrow}$$

Page 319:

Questions: 7, ~~8~~, 9, 13, ~~15~~, 16

Page 326-329

Questions:

1, 3, 5, 6, 8, 10, 11, 13, 16, 18,

don't graph

Find the x and y intercepts for  $y = 5x + 15$

## 13 Multiple choice

\* Given sets or ordered pairs determine which are function and non-functions.

\* Given Table of Values, which is the independent variable or dependent variable. Which table of values represents a linear equation.

\*Read info off graph. What does a certain segment mean?

\*Function or Non-function and Domain/Range when given a picture of a graph. Where is the x and y- intercepts?

\*Given ordered pairs or word problem, find the rate of change

## 5 Short Response

1) Given 3 functions (Evaluate or solve)

2) Same as Nov. 21 Warm up on Table of values and rate of change (PROVE)

3) Given a linear graph find the rate of change and x,y - intercepts

4) Given an equation a) Write the function notation, b) Evaluate when given an x value c) Solve when given a C(x) value

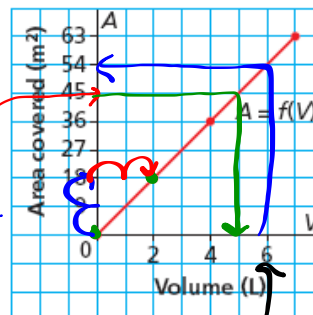
5) Given 2 equation solve for x(LET  $y=0$  and solve) and y intercepts (Let  $x=0$  and solve)

7. This graph shows the area,  $A$  square metres, that paint covers as a function of its volume,  $V$  litres.

a) What is the rate of change? What does it represent?

b) What area is covered by 6 L of paint?

c) What volume of paint would cover 45 m<sup>2</sup>? <sup>5L</sup>



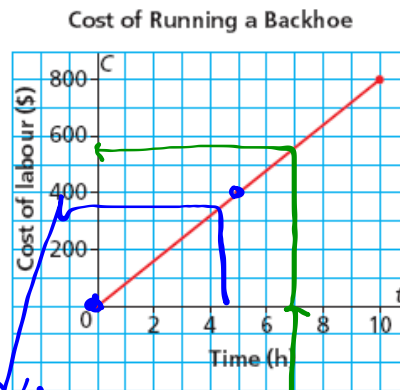
rate  $\frac{\Delta y}{\Delta x} = \frac{+18 \text{ m}^2}{+2 \text{ L}} = 9 \text{ m}^2/\text{L}$

*Always count with their block size*

b) read off graph

$V = 6 \text{ L}$   
 $54 \text{ m}^2$

9. St. Adolphe, Manitoba, is located in the flood plain of the Red River. To help prevent flooding, backhoes were used to build dikes around houses and farms in the town. This graph shows the labour costs for running a backhoe.



a) Determine the vertical and horizontal intercepts. Write the coordinates of the point where the graph intersects the axes. Describe what the point represents.

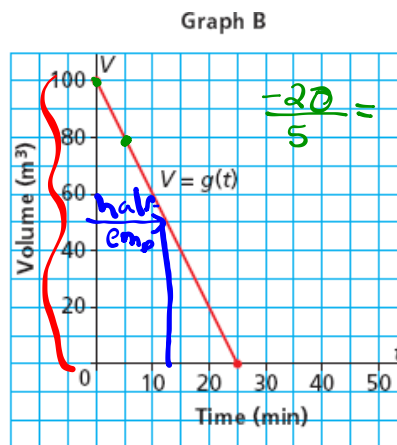
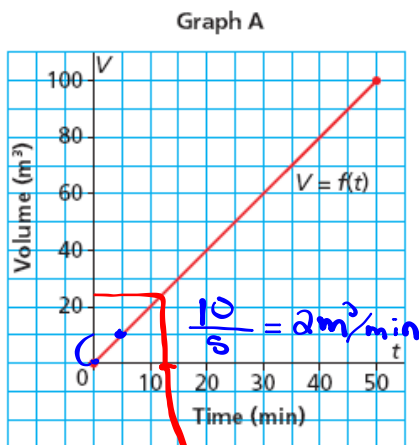
b) Determine the rate of change.  $\frac{400}{6h} = \$80/h$

c) Write the domain and range. Get paid \$80 an hour to work

d) What is the cost to run the backhoe for 7 h?  $\approx 550$

e) For how many hours is the backhoe run when the cost is \$360?  $\approx 4.5hrs$

13. The capacity of each of 2 fuel storage tanks is  $100 \text{ m}^3$ . Graph A represents the volume of fuel in one tank as a function of time as the tank is filled. Graph B represents the volume of fuel in another tank as a function of time as the tank is emptied.



a) Does it take longer to fill the empty tank or empty the full tank?  
How do you know?

b) In the time it takes for one tank to be half empty, about how much fuel would be in a tank that was being filled from empty?

12 min on graph A  
is about  $25 \text{ m}^3$

12 min to be half empty

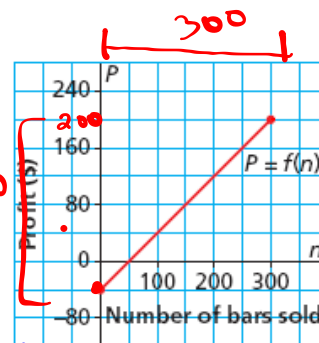


16. Northlands School Outdoor Club had a fundraiser to help purchase snowshoes. The club had 300 power bars to sell. This graph shows the profit made from selling power bars.

a) What is the profit on each bar sold? How do you know?

b) Determine the intercepts. What does each represent?

c) Describe the domain and range for the function. Why would you not want to list all the values in the range?



$$\frac{240}{300} = 0.80/\text{bar}$$