

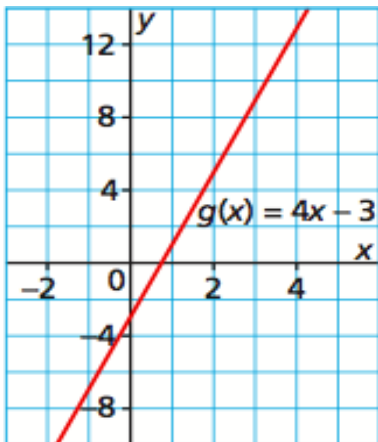
Name: \_\_\_\_\_

Date: \_\_\_\_\_ Block: \_\_\_\_\_

### 6.5 Slope

Bell Work: Determine whether or not each relation is a function or not.

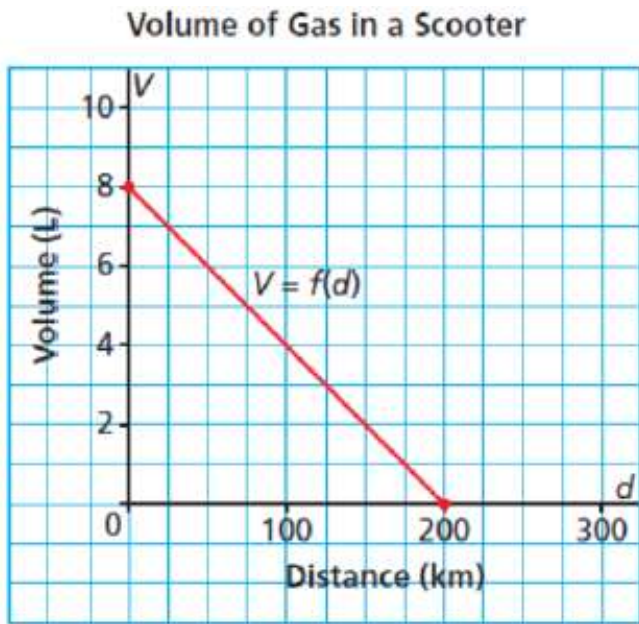
<table border="1" style="margin: auto;"> <tr> <td style="padding: 5px;">x</td> <td style="padding: 5px;">-1</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">5</td> </tr> <tr> <td style="padding: 5px;">y</td> <td style="padding: 5px;">-4</td> <td style="padding: 5px;">8</td> <td style="padding: 5px;">20</td> </tr> </table>	x	-1	2	5	y	-4	8	20		
x	-1	2	5							
y	-4	8	20							



Is  $g(x)$  a relation? \_\_\_\_\_

- a) Is  $g(x)$  a function? \_\_\_\_\_
- b) Is it discrete/continuous? \_\_\_\_\_
- c) Is it linear/nonlinear? \_\_\_\_\_
- d) Write the domain and range in **interval notation**.  
 D: \_\_\_\_\_ R: \_\_\_\_\_
- e) Determine the domain value when the range value is -7. \_\_\_\_\_
- f)  $g(3) = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

Example 1: This graph shows the fuel consumption of a scooter with a full tank of gas at the beginning of a journey.



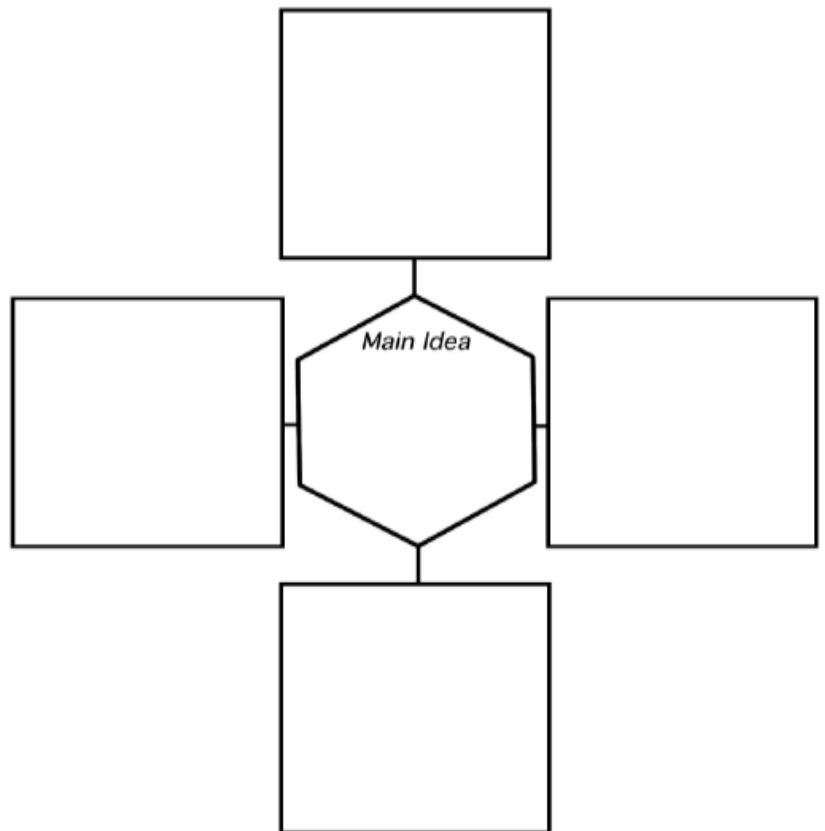
1. Identify the horizontal and vertical intercepts. What do they represent?

2. Calculate the slope (rate of change). Is it positive or negative?

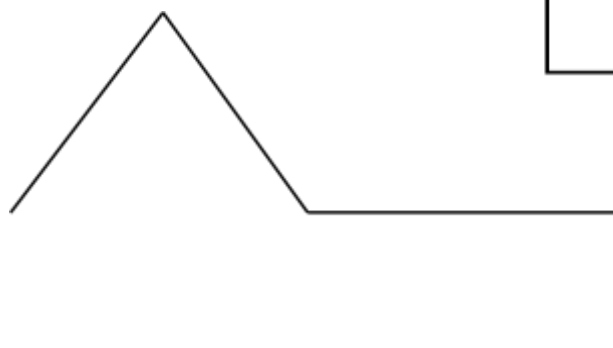
Vocabulary

Horizontal intercept (x-intercept):

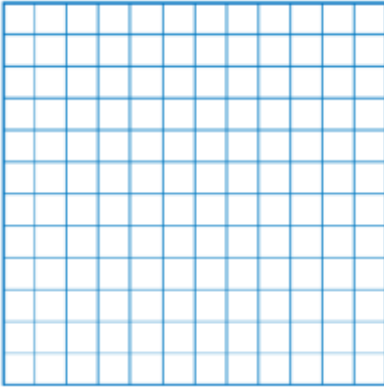
Vertical intercept (y-intercept):



Adventures of Slope Dude

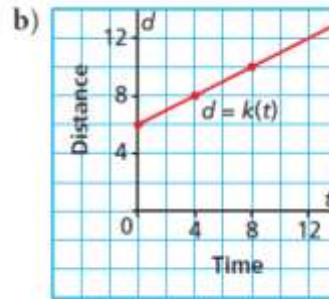
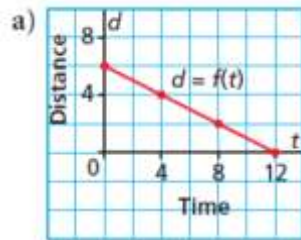


Example 2: The point  $(-6, 1)$  is on a line that has a slope of  $\frac{1}{3}$ . List 3 other points on the line and graph the line.



Example 3: Determine the slope of a line segment that passes through  $C(-5, -3)$  and  $D(2, 1)$ .

Example 4: Which graph has a rate of change of  $\frac{1}{2}$  and a vertical (y) intercept of 6?



Example 5: Points  $A(1, -5)$  and  $B(5, 3)$  are on a line. What is the slope from point A to point B? Who is correct? Why?

Kate:

$$\begin{aligned} \text{slope} &= \frac{5 - 1}{3 - (-5)} \\ &= \frac{4}{8} = \frac{1}{2} \end{aligned}$$

Johnny:

$$\begin{aligned} \text{slope} &= \frac{3 - (-5)}{5 - 1} \\ &= \frac{8}{4} = 2 \end{aligned}$$

Ben:

$$\begin{aligned} \text{slope} &= \frac{3 - (-5)}{1 - 5} \\ &= \frac{8}{-4} = -2 \end{aligned}$$