Name:_____ Hour: _____ Date: _____

NOTES: Section 11.2 – Direct and Inverse Variation

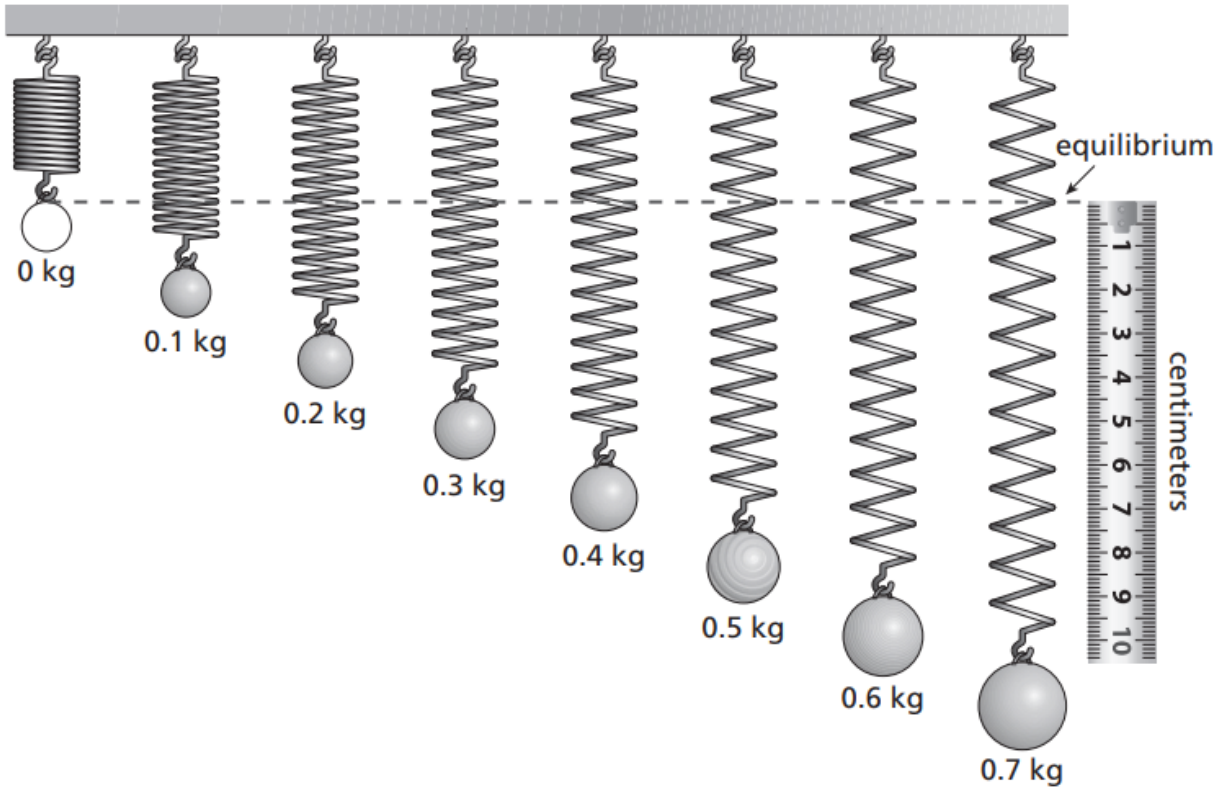
Goals: #1 - I can identify and write direct and inverse variation equations and graph them.

Homework: Section 11.2 Worksheet

Warm Up:

1. Solve the proportion using cross multiplication.
   a. $\frac{x-3}{18} = \frac{3}{x}$
   b. $\frac{x}{x-3} = \frac{x+6}{x}$

Exploration #1: Work with a partner and answer the following questions. You hang different weights from the same spring.

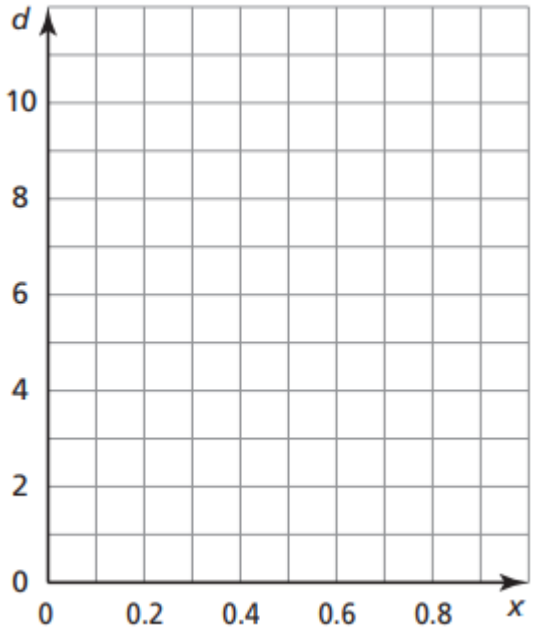


Name:_____ Hour: _____ Date: _____

1. Complete the table:

Weight (x)	0.1	0.2	0.3	0.4	0.5	0.6	0.7
Distance (d)							

2. Plot the points from your table on the graph below:



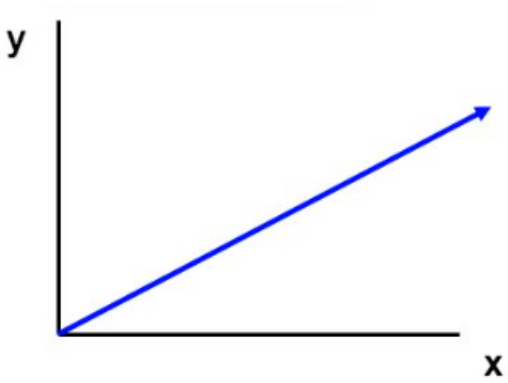
3. Write an equation that represents this relationship.

Notes:

_____:

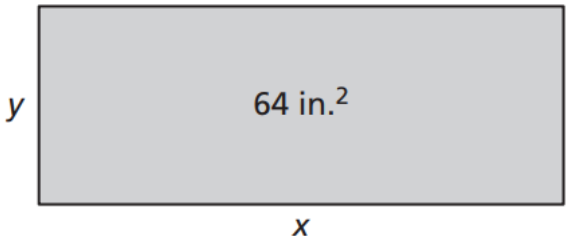
The variables x and y _____ if for a constant k

$$y = kx$$



Name:_____ Hour: _____ Date: _____

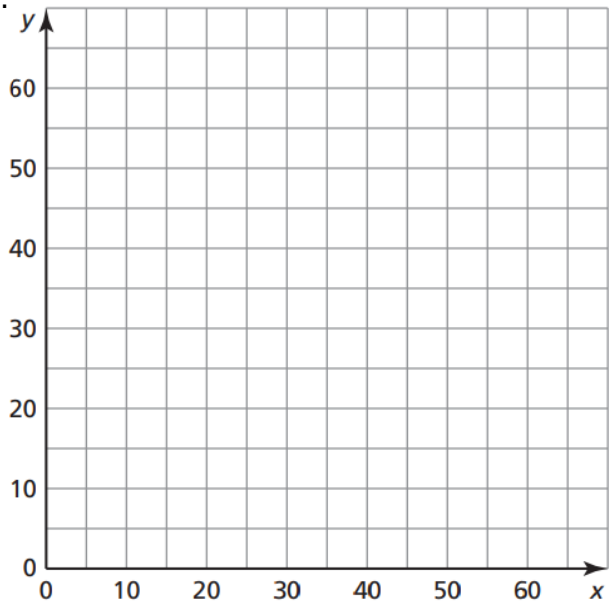
Exploration #2: Work with a partner. The table shows the length x (in inches) and the width y (in inches) of a rectangle. The area of each rectangle is 64 square inches.



1. Complete the table:

Length (x)	1	2	4	8	16	32	64
Width (y)							

2. Plot the points from your table on the graph below:



3. Write an equation that represents this relationship.

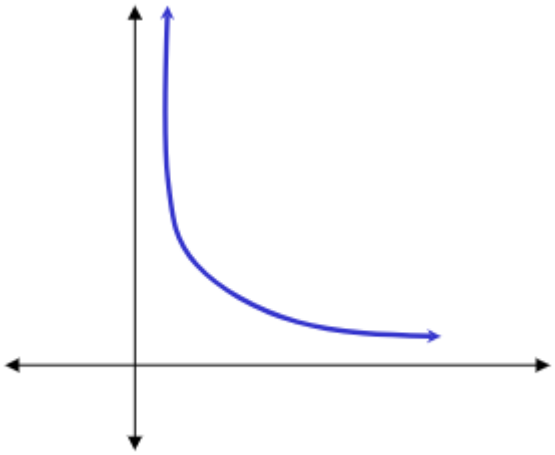
Name:_____ Hour: _____ Date: _____

Notes:

_____:

The variables x and y _____ if for a constant k

$$y = \frac{k}{x}$$



Example #1:

1. Find an equation that relates x and y such that x and y vary directly, and $y = 4$ when $x = 2$.

2. Find an equation that relates x and y such that x and y vary inversely, and $y = 4$ when $x = 2$.

Name:_____ Hour: _____ Date: _____

You practice:

1. Suppose $y = 6$ when $x = 2$. Find an equation that relates x and y such that:
   a. x and y vary directly.

   b. x and y vary inversely.

Example #2: Make a table of values and graph. State whether x and y vary directly or inversely.

1. $y = \frac{6}{x}$

x	y
-4	
-3	
-2	
-1	
0	
1	
2	
3	
4