Relationships on Desmos

In this activity, you will use Desmos – an online Graphing Calculator. You will analyze some pre-made graphs to determine the relationships between the plotted variables. Links to the graph are found on the course page.

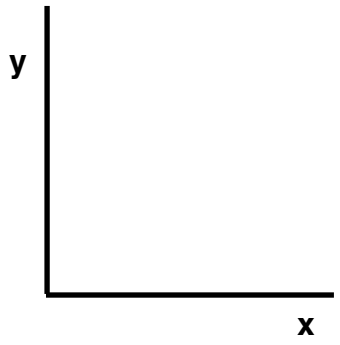
Graph 1: www.desmos.com/calculator/mvl8sk6qer

Open Graph 1. You will see a data table, a graph, and an equation that you change. Use the sliders for m and b until the line on the graph *fits* the data points. Then answer the questions.

x	y
0	2
1	6
2	10
3	14
4	18
5	22

Sketch the basic shape of the line

m=_____ b=_____



Write the equation:

For every change of x by 1 unit, the y value changes by _____ units.

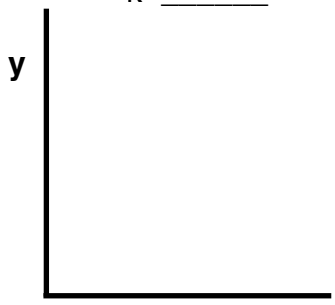
Graph 2: www.desmos.com/calculator/5gxv44prt1

Open Graph 2. You will see a data table, a graph, and an equation that you change. Use the slider for k until the line on the graph *fits* the data points. Then answer the questions.

x_1	y_1
1	40
2	20
4	10
5	8
8	5
10	4
20	2

Sketch the basic shape of the line

k=_____



Write the equation:

If the value x is doubled then the value of y _____; increase x by a factor of 4 and y _____ by a factor of _____.

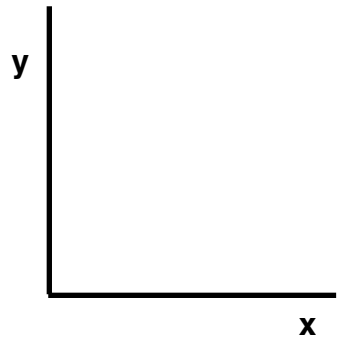
Graph 3: www.desmos.com/calculator/zhwpyvtq8l

Open Graph 3. You will see a data table, a graph, and an equation that you change. Use the slider for k until the line on the graph *fits* the data points. Then answer the questions.

x_1	y_1
0	0
1	4
2	16
3	36
4	64
6	144

Sketch the basic shape of the line

k=_____



Write the equation:

If the value x doubles then the value of y _____; increase x by a factor of 3 and y _____ by a factor of _____.

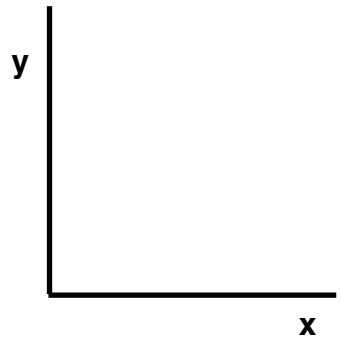
Graph 4: www.desmos.com/calculator/nj6olrzfpy

Open Graph 4. You will see a data table, a graph, and an equation that you change. Use the sliders for m and b until the line on the graph *fits* the data points. Then answer the questions.

x_1	y_1
0	0
1	3
2	6
4	12
6	18
8	24

Sketch the basic shape of the line

m=_____ b=_____



Write the equation:

If the value x is doubled then the value of y _____; increase x by a factor of 3 and y _____ by a factor of _____.

Summary:

Identify the type of relationship for Graphs 1 – 4. Choices are linear, quadratic, and inverse.

Graph 1: _____

Graph 2: _____

Graph 3: _____

Graph 4: _____