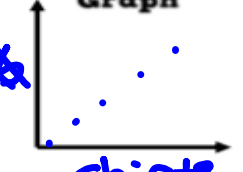
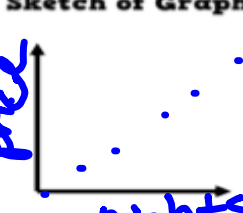
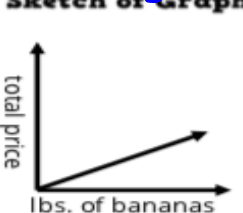
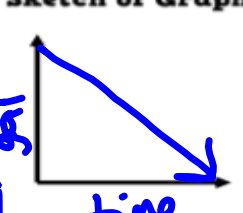
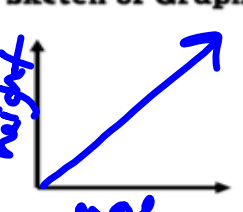
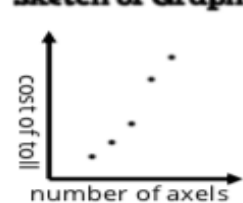


Warm Up

Finish the worksheet from Friday!

Situation	Variables	Sketch of Graph
Student Council earns a profit of \$5 for each Homecoming Shirt sold.	Dependent total \$ Independent shirts sold	 A scatter plot with 'shirts' on the x-axis and 'total \$' on the y-axis. Five data points are plotted, showing a clear upward trend.
	Dependent Price of Hotel Stay Independent Number of Nights	 A scatter plot with 'nights' on the x-axis and 'price' on the y-axis. Five data points are plotted, showing a clear upward trend.
	Dependent price Independent lbs bananas	 A line graph with 'lbs. of bananas' on the x-axis and 'total price' on the y-axis. A single straight line starts at the origin and slopes upwards.
Bob empties his swimming pool at a rate of 10 gallons per minute.	Dependent gallons in pool Independent time draining	 A line graph with 'line' on the x-axis and 'gallons' on the y-axis. A single straight line starts high on the y-axis and slopes downwards towards the x-axis.
	Dependent Height of Tree Independent Age of Tree	 A line graph with 'age' on the x-axis and 'height' on the y-axis. A single straight line starts at the origin and slopes upwards.
	Dependent cost Independent axels	 A scatter plot with 'number of axels' on the x-axis and 'cost of toll' on the y-axis. Five data points are plotted, showing a clear upward trend.

Review homework

Domain and Range

D	dom ⁱⁿ
I	input
X	x-value
I	independent

R	range
O	output
Y	y-value
D	dependent

Domain and Range for Discrete Relations

For each relation, determine whether or not it is a function and justify why. Then, state the domain and range.

$\{(2, -4), (6, -2), (4, -2), (5, -4), (-8, -6)\}$

Function? YES

Why? _____

Domain: $x = \{-8, 2, 4, 5, 6\}$ Range: $y = \{-6, -4, -2\}$

least to
greatest
no repeats

$\{(-4, 6), (5, 8), (4, -7), (6, -8), (4, 7)\}$

Function? NO

Why? _____

Domain: $x = \{-4, 4, 5, 6\}$ Range: $y = \{-8, -7, 6, 7, 8\}$

x	y
6	2
-8	5
5	8
0	0
6	6

Function? NO

Why? _____

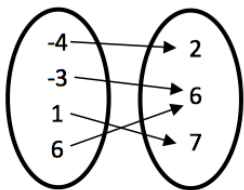
Domain: $x = \{-8, 0, 5, 6\}$ Range: $y = \{0, 2, 5, 6, 8\}$

x	y
-7	6
-1	2
3	-3
1	2
0	-1

Function? yes

Why? _____

Domain: $x = \{-7, -1, 0, 1, 3\}$ Range: $y = \{-3, -1, 2, 6\}$

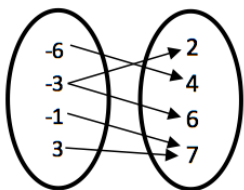


Function? yes

Why? _____

Domain: $x = \{-4, -3, 1, 6\}$

Range: $y = \{2, 6, 7\}$

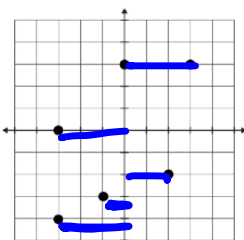


Function? NO

Why? _____

Domain: $x = \{-6, -3, -1, 3\}$

Range: $y = \{2, 4, 6, 7\}$

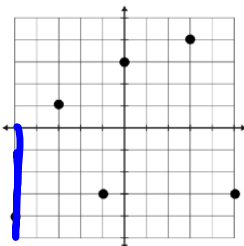


Function? NO

Why? _____

Domain: $x = \{-3, -1, 0, 2, 3\}$

Range: $y = \{-4, -3, -2, 0, 3\}$



Function? yes

Why? _____

Domain: $x = \{-5, -3, -1, 0, 3, 5\}$

Range: $y = \{-4, -3, 1, 3, 4\}$

Desmos Domain and Range Investigation

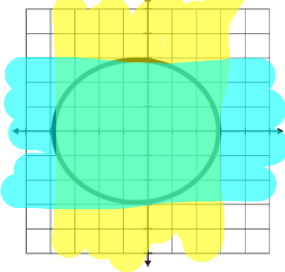
<https://teacher.desmos.com/activitybuilder/custom/5953f7bc359502399f3cd312>

Domain and Range for Continuous Relations

Remember: \leq "Less than or equal to"

..... \geq "Greater than or equal to"

1

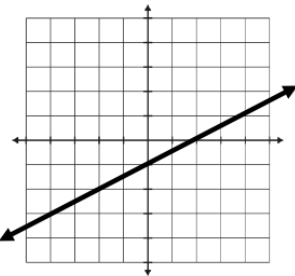


Domain: $-4 \leq x \leq 3$

Range: $-3 \leq y \leq 3$

Function? _____, because...

2

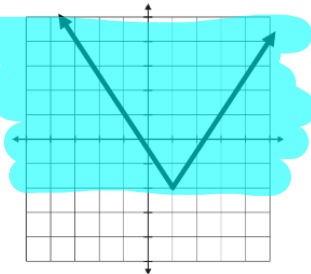


Domain: $x = \mathbb{R}$

Range: $y = \mathbb{R}$

Function? _____, because...

3

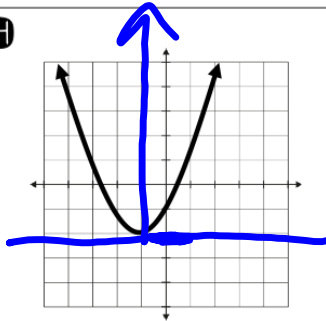


Domain: $x = \mathbb{R}$

Range: $y \geq -2$

Function? _____, because...

4

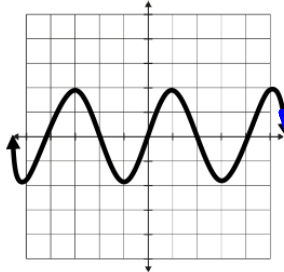


Domain: $x = \mathbb{R}$

Range: $y \geq -2$

Function? _____, because...

5

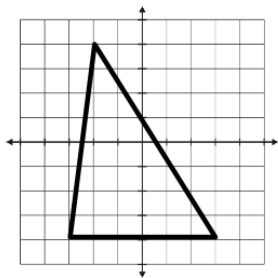


Domain: $x = \mathbb{R}$

Range: $-2 \leq y \leq 2$

Function? _____, because...

6

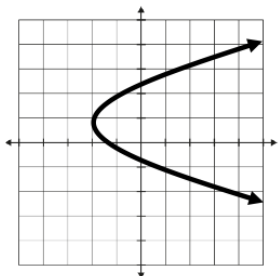


Domain: _____

Range: _____

Function? _____, because...

7

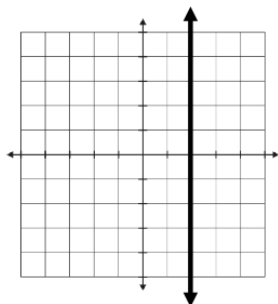


Domain: _____

Range: _____

Function? _____, because...

8

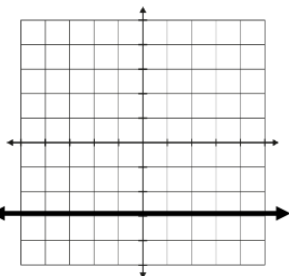


Domain: $x = 2$

Range: $y = \mathbb{R}$

Function? _____, because...

9



Domain: _____

Range: _____

Function? _____, because...

A local theater sells admission tickets for \$9 on Thursday nights. At capacity the theater holds 100 customers.

_____ depends on _____.

Dependent Variable:

Independent Variable:

Discrete or Continuous?

Domain:

Range:

Bruce earns \$8.50 per hour at his part time job. His parents are worried about him keeping up with his grades, so he is allowed to work a maximum of 10 hours each week.

_____ depends on _____.

Dependent Variable:

Independent Variable:

Discrete or Continuous?

Domain:

Range: