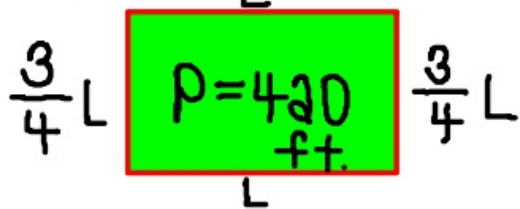


Warm Up

February 5, 2019

1.) The width of a rectangle is $\frac{3}{4}$ its length. The perimeter of the rectangle is 420 feet. What is the length, in feet, of the rectangle?



$$L + \frac{3}{4}L + \frac{3}{4}L + L = 420$$

$$\frac{3.5L}{3.5} = \frac{420}{3.5}$$

$$L = 120$$

2.) If $-5x + 80 > 2x - 25$, what is the greatest possible value of $x + 5$?

$$x < 15$$

$$\begin{array}{r} -5x + 80 > 2x - 25 \\ +5x \quad \quad +5x \\ \hline \end{array}$$

$$\begin{array}{r} 80 > 7x - 25 \\ +25 \quad \quad +25 \\ \hline \end{array}$$

$$\begin{array}{r} 105 > 7x \\ \hline \end{array}$$

$$15 > x$$

11, 12, 13, 14

↓ ↓ ↓ ↓

10 17 18 19

3.) Evaluate $3 + 7(2^3 - 6)^2$

$$3 + 7(8 - 6)^2$$

$$3 + 7(2)^2$$

$$3 + 7(4)$$

$$3 + 28$$

$$31$$

Relations

Definition: a set of ordered pairs - (X, Y)

The set of all x-values is called the domain.

The set of all y-values is called the range.

least to greatest

Representing Relations

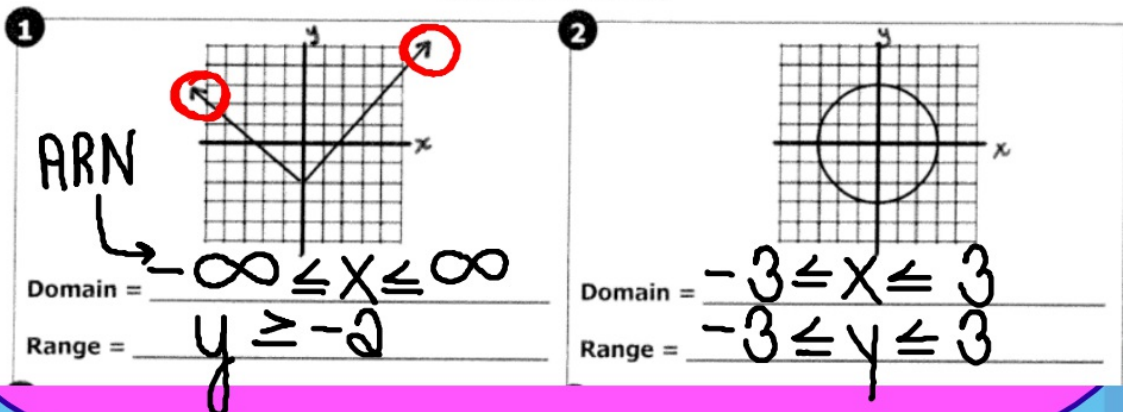
do not repeat

Ordered Pairs	Table	Mapping	Graph												
$\{(-3, 1), (-2, 0), (1, 2), (3, -4), (-3, 5)\}$ Domain: <u>-3, -2, 1, 3</u> Range: <u>-4, 0, 1, 2, 5</u>	<table border="1" style="margin: auto;"> <tr><th>x</th><th>y</th></tr> <tr><td>-3</td><td>1</td></tr> <tr><td>-2</td><td>0</td></tr> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>-4</td></tr> <tr><td>-3</td><td>5</td></tr> </table>	x	y	-3	1	-2	0	1	2	3	-4	-3	5		
x	y														
-3	1														
-2	0														
1	2														
3	-4														
-3	5														
$\{(-2, -3), (-1, 4), (0, -2), (2, 4), (5, -1)\}$ Domain: <u>-2, -1, 0, 2, 5</u> Range: <u>-3, -2, -1, 4</u>	<table border="1" style="margin: auto;"> <tr><th>x</th><th>y</th></tr> <tr><td>-2</td><td>-3</td></tr> <tr><td>-1</td><td>4</td></tr> <tr><td>0</td><td>-2</td></tr> <tr><td>2</td><td>4</td></tr> <tr><td>5</td><td>-1</td></tr> </table>	x	y	-2	-3	-1	4	0	-2	2	4	5	-1		
x	y														
-2	-3														
-1	4														
0	-2														
2	4														
5	-1														
Domain: _____ Range: _____	<table border="1" style="margin: auto;"> <tr><th>x</th><th>y</th></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>	x	y												
x	y														

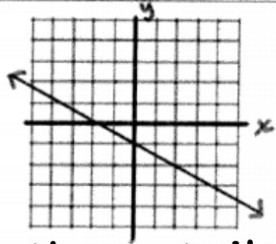
X----->DOMAIN & RANGE<-----Y OF CONTINUOUS GRAPHS

- For DOMAIN, scan your pencil left to right along the x-axis.
- For RANGE, scan your pencil bottom to top along the y-axis.

EXAMPLES:



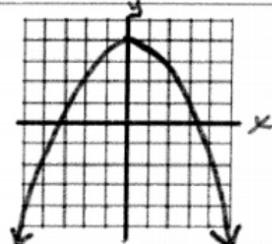
3



Domain = all real #s

Range = all real #s

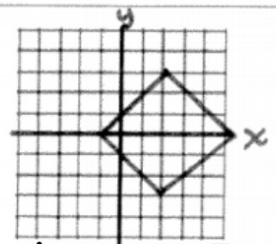
4



Domain = all real #s

Range = $y \leq 4$

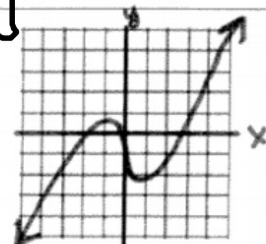
5



Domain = $-1 \leq x \leq 5$

Range = $-3 \leq y \leq 3$

6



Domain = $-\infty \leq x \leq \infty$

Range = $-\infty \leq y \leq \infty$

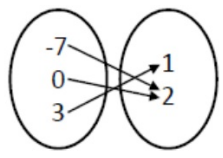
Ways to Represent
RELATIONS

TABLES

x	y
3	1
-2	-4
0	2
3	6

Domain: _____
Range: _____
Function? _____

MAPPINGS



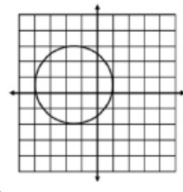
Domain: _____
Range: _____
Function? _____

ORDERED PAIRS

$\{(-1, 2), (0, 5), (2, 7)\}$

Domain: _____
Range: _____
Function? _____

GRAPHS



Domain: _____
Range: _____
Function? _____

EQUATIONS

$$y = x^2 - 1$$

Domain: _____
Range: _____
Function? _____