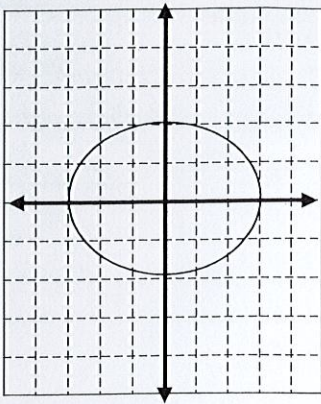


Vertical Line Test: tests a graph to see if it is a function.

1.



State the Domain of the Relation

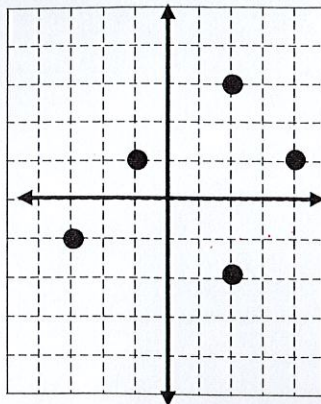
$[-3, 3]$

State the Range of the Relation

$[-2, 2]$

Is it a Function? no

2.



$\{(-3,-1)(-1,1)(2,-2)(2,3)(4,1)\}$

State the Domain of the Relation

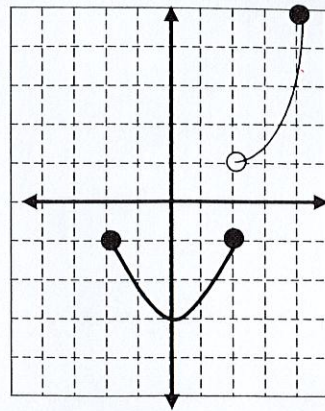
$\{-3,-1,2,4\}$

State the Range of the Relation

$\{-1,1,-2,3\}$

Is it a Function? no

3.



State the Domain of the Relation

$[-2, 4]$

State the Range of the Relation

$[-3, 1]$

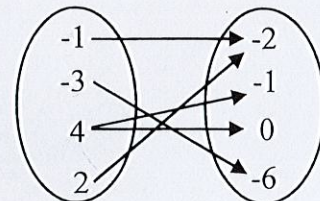
Is it a Function? yes

4. $\{(1, 2), (2, 3), (-3, 1), (4, 2), (0, 2)\}$

5.

x	y
1	5
-2	4
3	-2
-2	1

6.



Is it a Function? yes

Is it a Function? no

Is it a Function? no

Function Notation: If the graph is a function we can use $f(x)$, $g(x)$, $h(x)$ instead of y

If $f(x) = 2x + 1$

Find $f(3)$ $2(3) + 1 = 7$

Find $f(-2)$ $2(-2) + 1 = -3$

Find $f(a)$ $2(a) + 1$
 $2a + 1$

If $g(x) = x^2 + 3$

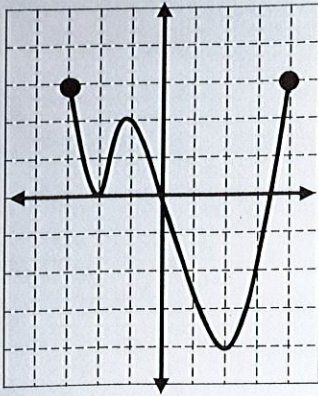
Find $g(2)$ $2^2 + 3 = 7$

Find $g(-1)$ $(-1)^2 + 3 = 4$

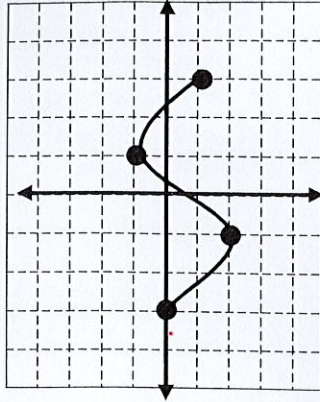
Find $g(4)$ $(4)^2 + 3 = 19$

Classwork:

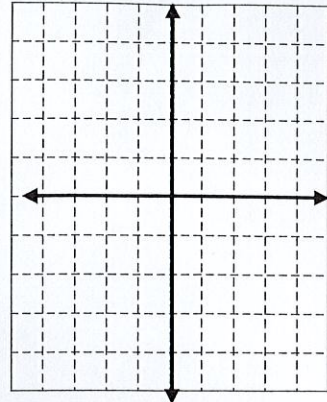
1.



2.



3.



Graph #3 above $\{(1, -3), (0, -5), (2, 1), (-3, 1)\}$

State the Domain of the Relation State the Domain of the Relation State the Domain of the Relation

$[-3, 4]$

$[-1, 2]$

$\{1, 0, 2, -3\}$

State the Range of the Relation State the Range of the Relation State the Range of the Relation

$[-4, 3]$

$[-3, 3]$

$\{-3, -5, 1\}$

Is it a Function? yes

Is it a Function? No

Is it a Function? yes

4. Given the points $\{(-3, 5), (2, 7), (-1, -1), (0, 4)\}$ Add a point so this is not a function. $(-3, 1)$

State the inverse of #4 $\{(5, -3), (7, 2), (-1, -1), (4, 0)\}$

5. If $h(x) = x^2 + x - 8$

6. If $p(x) = -3x + 4$

7. If $f(x) = \frac{1}{2}x + 6$

Find $h(4)$ $4^2 + 4 - 8 = 12$

Find $p(2)$ $-3(2) + 4 = -2$

Find $f(2)$ $\frac{1}{2}(2) + 6 = 7$

Find $h(0)$ $0^2 + 0 - 8 = -8$

Find $p(-1)$ $-3(-1) + 4 = 7$

Find $f(-4)$ $\frac{1}{2}(-4) + 6 = 4$

Find $h(-1)$ $(-1)^2 + (-1) - 8 = -8$

Find $p(a)$ $-3(a) + 4$
 $-3a + 4$

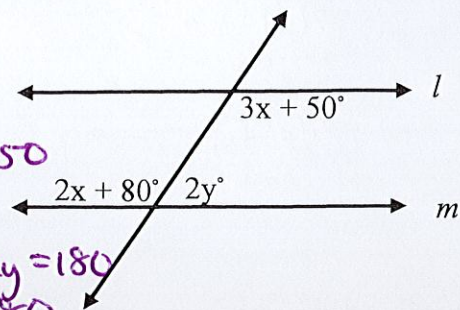
Find $f(0)$ $\frac{1}{2}(0) + 6 = 6$

Review:

8. Solve for x and y if the lines l and m are parallel

$x =$ 30

$y =$ 20



$2x + 80 = 3x + 50$

$30 = x$

$2(30) + 80 + 2y = 180$

$2y + 140 = 180$

$2y = 40$ $y = 20$