Practice 5-3 Name _____

Use the functions $f(x)=2x$ and $g(x)=x^2+1$ to find the value of each expression.

1. $f(3)+g(4)$

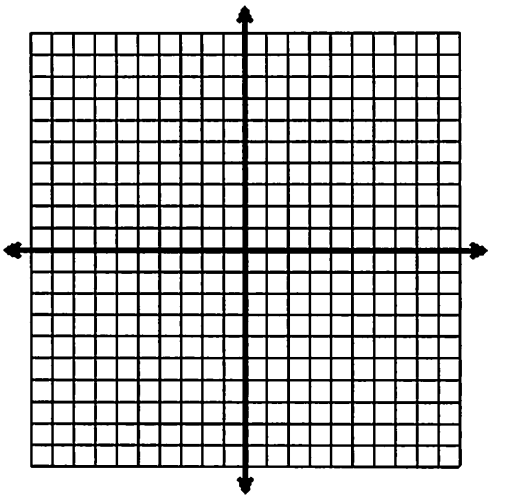
2. $g(3)+f(4)$

3. $f(5)+2g(1)$

4. $f(g(3))$

5. Model the function $y=x^2-6x+5$ with a table of values and graph for the domain: $0\le x\le 6$

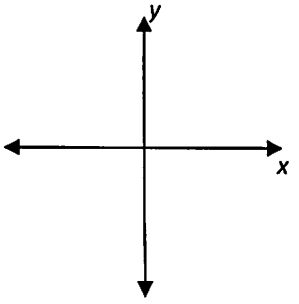
Domain (x)	$y=x^2-6x+5$	Range (y)



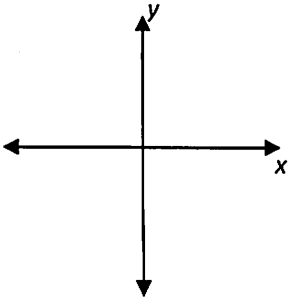
Write the set of range values for the given domain values _____

Draw a sketch of the graph for each of the following functions.

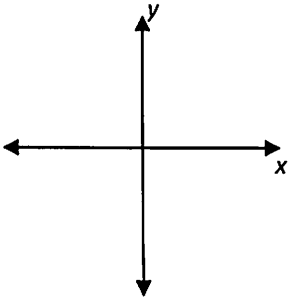
Linear



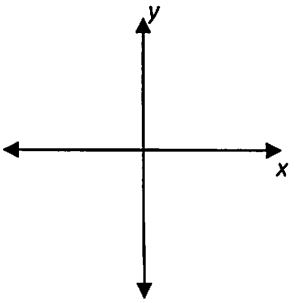
Quadratic



Exponential



Absolute Value



For each table, state the domain and range of the relation represented. Is the relation a function? Explain.

Table 1

x	y
1	−3
6	−2
9	−1
1	3

Table 2

x	y
−4	−4
−1	−4
0	−4
3	−4

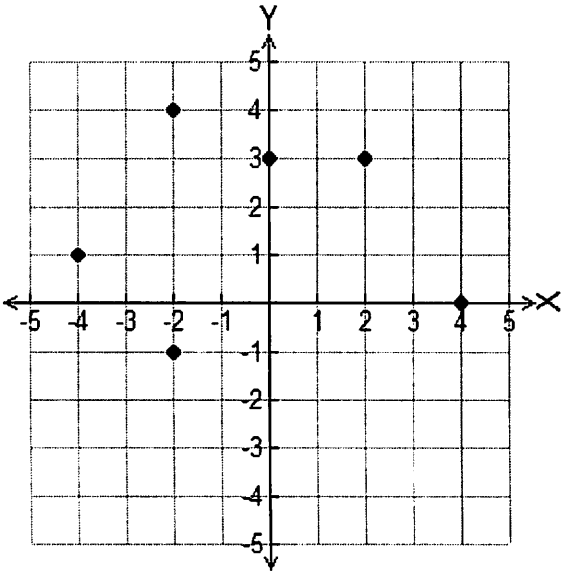
Given the table, find:

x	$f(x)$
0	1
1	3
2	5
3	7
4	9

$f(-4)$

$f(x)=13$

The graph of $y = f(x)$ is shown below. Which point could be used to find $f(0)$.



Practice 5-3 Name _____

Use the functions $f(x)=2x$ and $g(x)=x^2+1$ to find the value of each expression.

1. $f(3)+g(4)$

$2x + x^2 + 1$

$2(3) + 4^2 + 1$

$6 + 16 + 1$

23

2. $g(3)+f(4)$

$3^2+1 + 2(4)$

$9 + 1 + 8$

18

3. $f(5)+2g(1)$

$2 \cdot 5 + 2 \cdot (1^2+1)$

$2 \cdot 5 + 2 \cdot 2$

$10 + 4$

14

4. $f(g(3))$

3^2+1

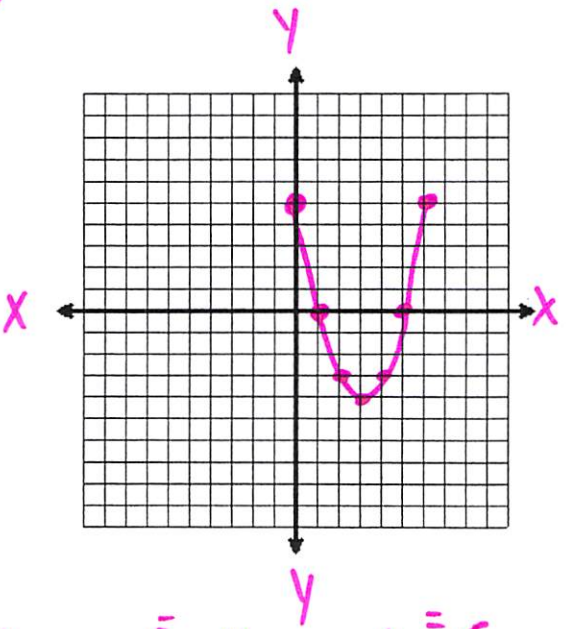
$f(10)$

$2(10)$

20

5. Model the function $y=x^2-6x+5$ with a table of values and graph for the domain: $0 \le x \le 6$

Domain (x)	$y=x^2-6x+5$	Range (y)
0	$0^2-6(0)+5$	5
1	$1^2-6(1)+5$	0
2	$2^2-6(2)+5$	-3
3	$3^2-6(3)+5$	-4
4	$4^2-6(4)+5$	-3
5	$5^2-6(5)+5$	0
6	$6^2-6(6)+5$	5

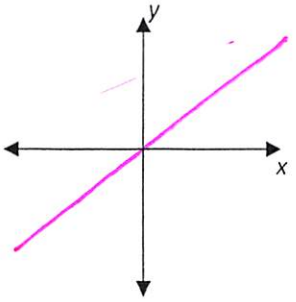


Write the set of range values for the given domain values Between $=-4$ and $=5$

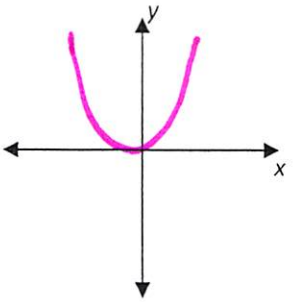
Range: $-4 \le y \le 5$

Draw a sketch of the graph for each of the following functions.

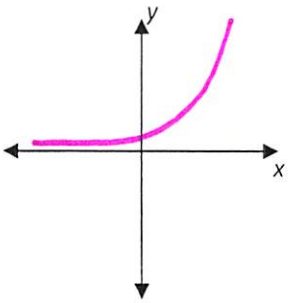
Linear



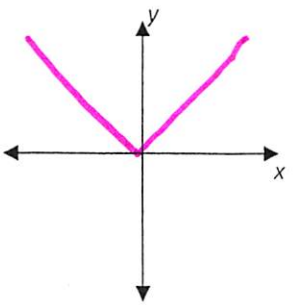
Quadratic



Exponential



Absolute Value



For each table, state the domain and range of the relation represented. Is the relation a function? Explain.

Table 1

x	y
1	−3
6	−2
9	−1
1	3

Domain: $\{1, 6, 9\}$

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

Not a Function

2 output values $\{-3, 3\}$ for the same input $\{1\}$

Table 2

x	y
−4	−4
−1	−4
0	−4
3	−4

Domain $\{-4, -1, 0, 3\}$

Range: $\{-4\}$

Yes, Function

Every input has 1 unique output

Given the table, find:

x	$f(x)$
0	1
1	3
2	5
3	7
4	9

$f(x) = 2x + 1$

$f(-4)$

$2(-4) + 1$

-7

$f(x) = 13$

$2x + 1 = 13$

$-1 \quad -1$

$\frac{2x}{2} = \frac{12}{2}$

$x = 6$

The graph of $y = f(x)$ is shown below. Which point could be used to find $f(0)$.

x f(x)

(0, ___)

The only point where $x = 6$