Name _____

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

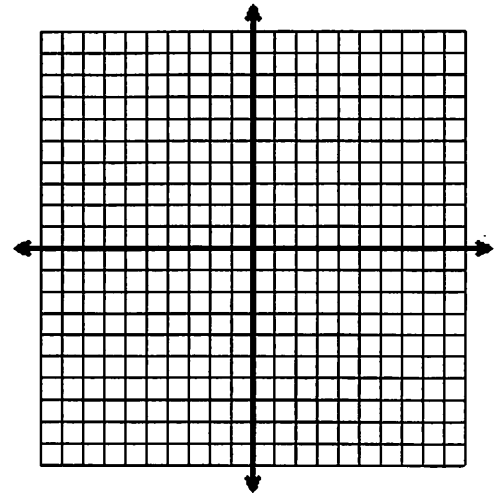1. $f(3) + g(4)$ 2. $g(3) + f(4)$

3. $f(5) + 2g(1)$ 4. $f(g(3))$

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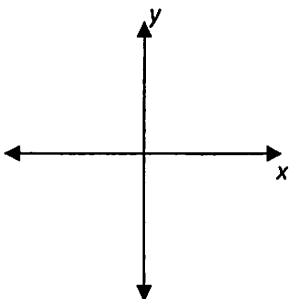values and graph for the domain: $0 \le x \le 6$

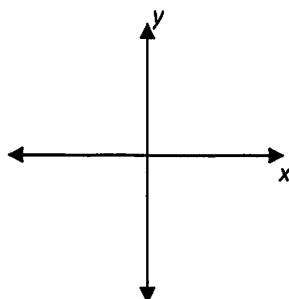| Domain (x)	$y = x^2 - 6x + 5$	Range (y)

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

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

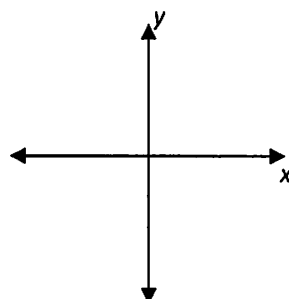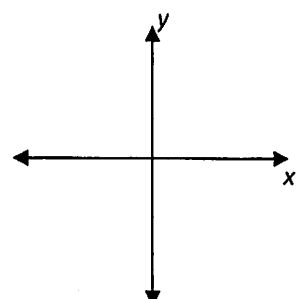| Linear	Quadratic	Exponential	Absolute Value

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

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

$2x + x^2 + 1$

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

$6 + 16 + 1$

$\boxed{23}$

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

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

$9 + 1 + 8$

$\boxed{18}$

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

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

$2 \cdot 5 + 2 \cdot 2$
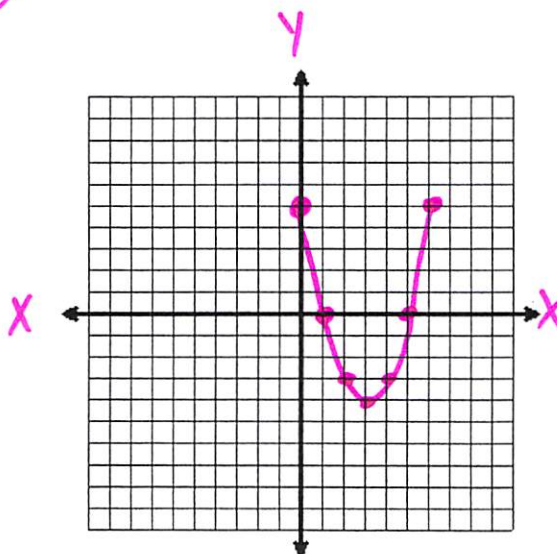
$10 + 4$

$\boxed{14}$

4. $f(g(3))$

$3^2 + 1$

$f(10)$

$2(10)$

$\boxed{20}$

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

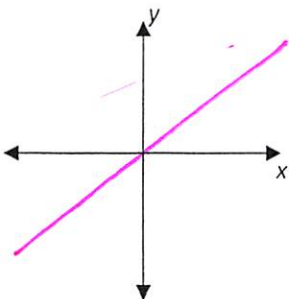| Domain (x)	$y = x^2 - 6x + 5$	Range (y)
0	$0^2 - 6(0) + 5$	5
1	$1^2 - 6(1) + 5$	0
2	$2^2 - 6(2) + 5$	-3
3	$3^2 - 6(3) + 5$	-4
4	$4^2 - 6(4) + 5$	-3
5	$5^2 - 6(5) + 5$	0
6	$6^2 - 6(6) + 5$	5

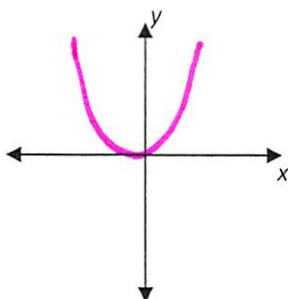Write the set of range values for the given domain values _Between $= -4$ and $= 5$_

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

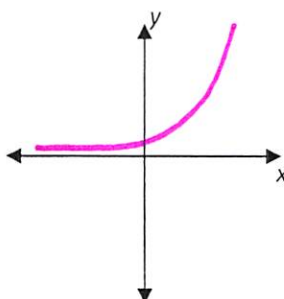**Draw a sketch of the graph for each of the following functions.**

Linear

Quadratic

Exponential

Absolute Value