

Order the functions from the narrowest to the widest.

1)  $f(x) = -\frac{1}{3}x^2$ ;  $h(x) = 2x^2$ ;  $g(x) = -x^2$

2)  $f(x) = -\frac{1}{2}x^2$ ;  $h(x) = \frac{2}{3}x^2$ ;  $g(x) = -\frac{1}{4}x^2$

Compare the graph of each function to  $f(x) = x^2$

3)  $g(x) = -\frac{1}{4}x^2 - 2$

4)  $g(x) = -3x^2 + 4$

5)  $g(x) = 2x^2 + 5$

width: \_\_\_\_\_

width: \_\_\_\_\_

width: \_\_\_\_\_

open: \_\_\_\_\_

open: \_\_\_\_\_

open: \_\_\_\_\_

up/down: \_\_\_\_\_

up/down: \_\_\_\_\_

up/down: \_\_\_\_\_

vertex: \_\_\_\_\_

vertex: \_\_\_\_\_

vertex: \_\_\_\_\_

A.O.S: \_\_\_\_\_

A.O.S: \_\_\_\_\_

A.O.S: \_\_\_\_\_

6) Convert to standard form:  $g(x) = -3(x-4)^2 + 8$

7) Convert to vertex form:  $g(x) = 4x^2 + 8x + 9$

Graph the following functions. Then state the domain and range.

8)  $f(x) = 4x^2 + 16x + 9$

9)  $f(x) = -x^2 + 8x - 8$

10)  $f(x) = 3x^2 + 6x - 5$

Vertex: \_\_\_\_\_, AOS: \_\_\_\_\_

Vertex: \_\_\_\_\_, AOS: \_\_\_\_\_

Vertex: \_\_\_\_\_, AOS: \_\_\_\_\_

y-int: \_\_\_\_\_ Max/Min \_\_\_\_\_

y-int: \_\_\_\_\_ Max/Min \_\_\_\_\_

y-int: \_\_\_\_\_ Max/Min \_\_\_\_\_

Domain: \_\_\_\_\_

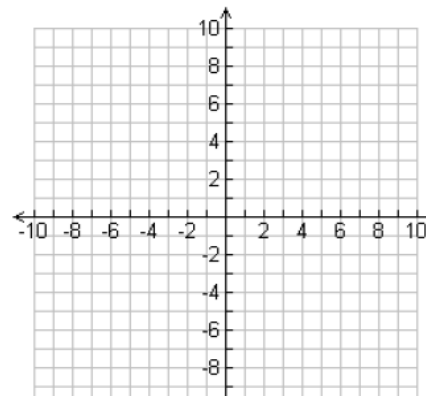
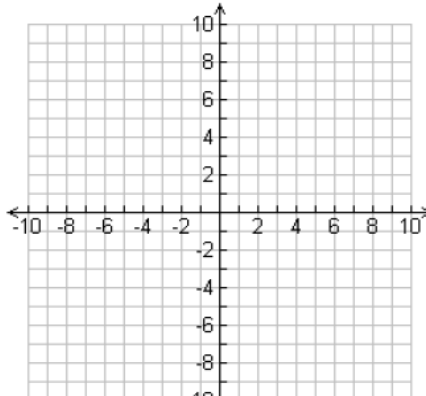
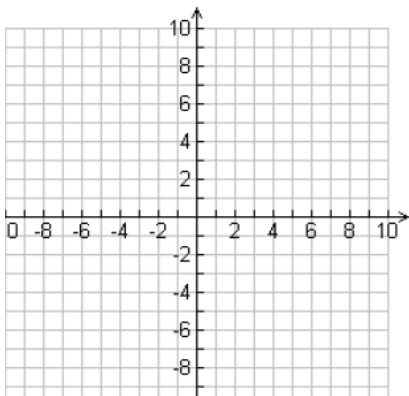
Domain: \_\_\_\_\_

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

Range: \_\_\_\_\_

Range: \_\_\_\_\_



11)  $f(x) = 3(x-1)^2 - 5$

12)  $f(x) = -2(x-2)^2 + 6$

13)  $f(x) = -(x+4)^2 + 8$

Vertex: \_\_\_\_\_, AOS: \_\_\_\_\_

Vertex: \_\_\_\_\_, AOS: \_\_\_\_\_

Vertex: \_\_\_\_\_, AOS: \_\_\_\_\_

y-int: \_\_\_\_\_ Max/Min \_\_\_\_\_

y-int: \_\_\_\_\_ Max/Min \_\_\_\_\_

y-int: \_\_\_\_\_ Max/Min \_\_\_\_\_

Domain: \_\_\_\_\_

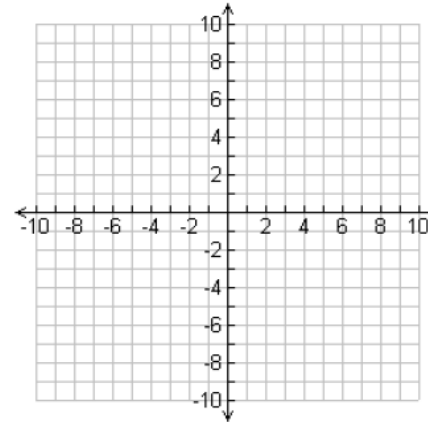
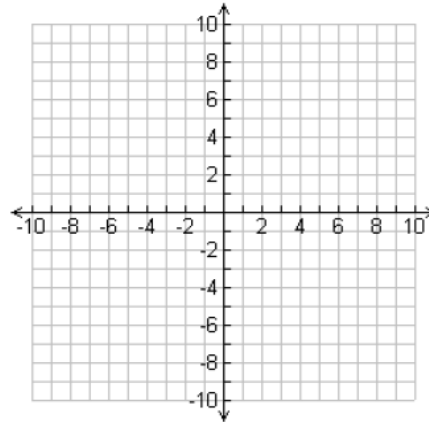
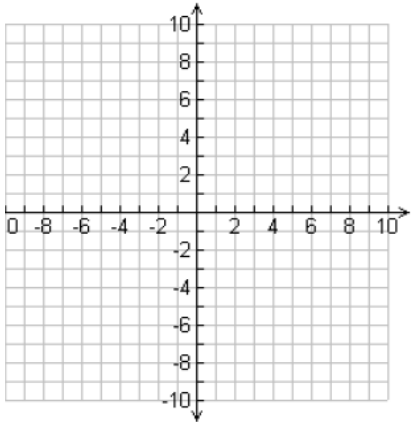
Domain: \_\_\_\_\_

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

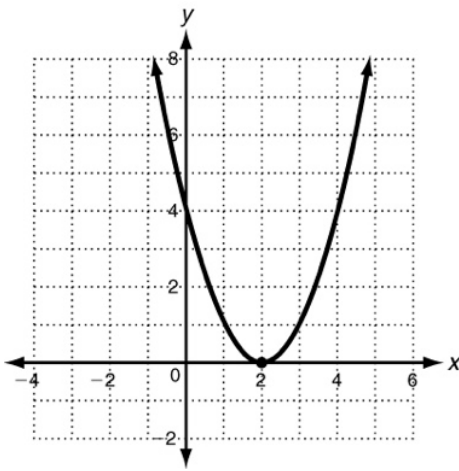
Range: \_\_\_\_\_

Range: \_\_\_\_\_



Find the following from the graph below.

14)



Vertex: \_\_\_\_\_ A.O.S.: \_\_\_\_\_

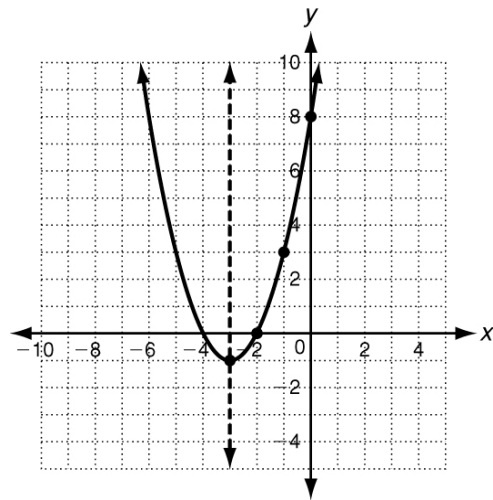
Zeros: \_\_\_\_\_ y-int: \_\_\_\_\_

Max/Min: \_\_\_\_\_ Range: \_\_\_\_\_

Vertex Form: \_\_\_\_\_

Standard Form: \_\_\_\_\_

15)



Vertex: \_\_\_\_\_ A.O.S.: \_\_\_\_\_

Zeros: \_\_\_\_\_ y-int: \_\_\_\_\_

Max/Min: \_\_\_\_\_ Range: \_\_\_\_\_

Vertex Form: \_\_\_\_\_

Standard Form: \_\_\_\_\_