Algebra II CW #2 Name_____

Identify the axis of symmetry for the graph of each function.

1. $g(x)=(x-1)^2$ $x=1$	2. $h(x)=2(x+1)^2-3$ $x=-1$	

For each function, A) determine if the graph opens up or down, B) axis of symmetry, C) vertex, D) graph.

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

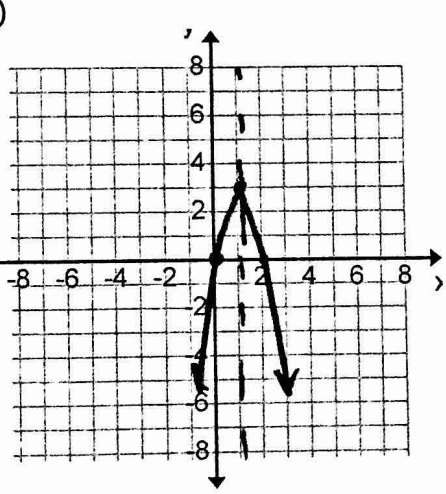
A) Up (Down)

B) $\frac{-6}{2(-3)}=\frac{-6}{-6}$ $x=1$

C) $(1,3)$

D) $(0,0)$

E)



4. $g(x)=3x^2+2x-8$

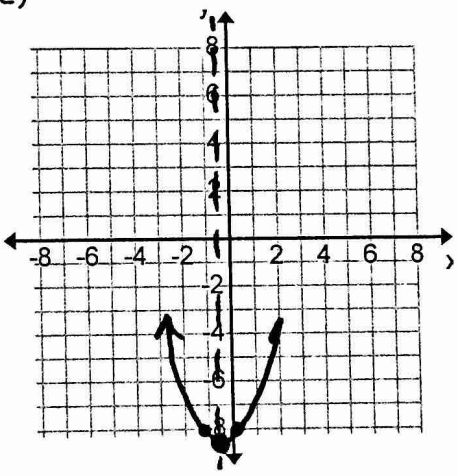
A) (Up) Down

B) $\frac{-2}{2(3)}=\frac{-2}{6}=-\frac{1}{3}$

C) $(-\frac{1}{3}, -8.3)$

D) $(0,-8)$

E)



5-6 Find the minimum or maximum for each function. Then state the domain and range.

5. $h(x)=x^2-4x+3$

$\frac{4}{2(1)}=\frac{4}{2}=2$

$(2)^2-4(2)+3$ $V(2,-1)$

D: $\mathbb{R}$

$y \geq -1$

6. $f(x)=-\frac{1}{2}x^2-4$

$\frac{0}{2(-1/2)}=\frac{0}{-1}=0$ $V(0,-4)$

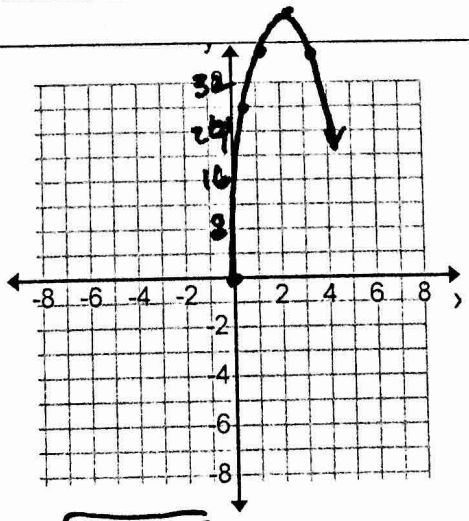
$-\frac{1}{2}(0)-4=-4$

D: $\mathbb{R}$ R: $y \leq -4$

Solve each problem.

7. The height of a golf ball over time can be represented by a quadratic function. Graph the data in the table. What is the maximum height the ball reaches? Explain your answer in terms of the axis of symmetry and vertex of the graph.

Golf Ball Height					
Time (s)	0	0.5	1	2	3
Height (ft)	0	28	48	64	48



$\boxed{64\text{ ft}}$ it is the vertex, (maximum) pt

8. The function $A(x)=x(10-x)$ describes the area A of a rectangular flower garden, where x is its width in yards. What is the maximum area of the garden?

$A(x)=-x^2+10x$

$\frac{-10}{2(-1)}=\frac{-10}{-2}=5$

$-(5)^2+10(5)=25$

max is 25