**Use the function to identify the quadratic properties AND GRAPH the function.**

1) $f\left(x\right)= x^{2}+8x+15$ 2) $f\left(x\right)= -2x^{2}-8x-6$

Vertex: Vertex:

Max or Min at what? \_\_\_\_ Max or Min at what? \_\_\_\_

Axis of Sym: Axis of Sym:

Zeros: Zeros:

Y-Int: Y-Int:

D: R: D: R:

Inc: Dec: Inc: Dec:

Pos: Neg: Pos: Neg:



**Convert the following standard form problems into vertex form.**

3) $y=x^{2}+8x+12$ 4) $f\left(x\right)=x^{2}-2x-6$

5) $y=x^{2}-14x+16$ 6) $f\left(x\right)=2x^{2}+20x-14$

**Use the graph to identify the quadratic properties. *(estimate numbers as needed)***

7) 8)

Vertex: Max or Min at what? \_\_\_\_ Vertex: Max or Min at what? \_\_\_\_

Axis of Sym: Y-Int: Axis of Sym: Y-Int:

Zeros: Zeros:

D: R: D: R:

Inc: Dec: Inc: Dec:

Pos: Neg: Pos: Neg:

**Graph the following quadratic functions from vertex form.**

9) $f\left(x\right)=\left(x+1\right)^{2}+4$ 10) $g\left(x\right)= -\left(x-3\right)^{2}+6$ 11) $h\left(x\right)= -(x-1)^{2}$

