To graph a parabola $f(x) = a(x-h)^2 + k$

1. Determine if it opens upward or downward
   $\text{if } a > 0 \text{ (up)} \quad \text{if } a < 0 \text{ (down)}$

2. Find Vertex $(h, k)$

3. Find $x$ intercepts (set $f(x) = 0$)

4. Find $y$ intercepts (let $x = 0$)

5. Plot pts. as needed

Strategies for Solving Problems Involving Maximizing or Minimizing Quadratic Functions

1. Read carefully to determine exactly what is being maximized or minimized

2. Express quantity as a function and put in the form $f(x) = ax^2 + bx + c$

3. Find $\frac{-b}{2a}$ determine if max or min
   
   $f(\frac{-b}{2a})$

4. Answer question