$$Y = (X - 1)^2 + 2$$
 has a vertex of (1,2)  
Expanding  $(X - 1)^2$  will give us the standard form equation

$$(X - 1)^2 = (x - 1)(x - 1) = x^2 - 2x + 1$$
  
 $v = x^2 - 2x + 1$