

Ex: Vertex of:

①  $y = 3(x - \underline{4})^2 + 8$

vertex:  
 $(4, 8)$


②  $y = \frac{1}{2}(x + \underline{5})^2 - 3$


$(-5, -3)$


③  $y = -2(x - \underline{8})^2 - 6$

$(8, -6)$

Ex: UP OR Down  (-4, 8)

a)  $y = -3(x+4)^2 + 8$   Down

b)  $y = -4x^2 - 3x + 2$   Down

c)  $y = 8(x-3)(x-3)$   Up