

$(x-h)^2 + k$

- vertex  $(3, 3)$
  - axis of symmetry  $x = 3$
  - max or min  $\text{min}$
  - discriminant  $= -12$
  - roots/zeros =  $\text{no real solution}$
- Sketch the graphs

$$y = (x-3)^2 + 3$$

$$y = (x-3)(x-3) + 3$$

$$= x^2 - 6x + 9 + 3$$

$a = 1$       $y = x^2 - 6x + 12$

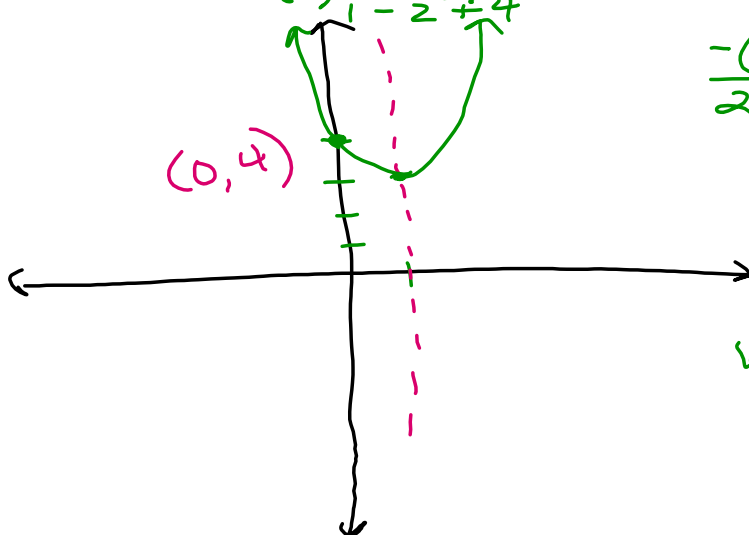
$b = -6$

$c = 12$       $b^2 - 4ac$

$(-6)^2 - 4(1)(12)$

$36 - 48$

$y = x^2 - 2x + 4$



$\frac{-b}{2a}$

$\frac{-(-2)}{2(1)}$

- vertex  $(1, 3)$
- axis of sym  $x = 1$
- max or min
- discriminant
- roots/zeros
- Sketch

$b^2 - 4ac$

$4 - 16$

$-12 = \text{no real solution}$