

# HW #3 LT 3.3 HW and Honors

①  $f(x) = 6x^2$

$a = 6$

①  $a > 0$  (+)  $\cup$  → minimum at  $y = 0$

②  $x = -\frac{0}{2(6)} = 0$

③  $f(0) = 0$   
 $(0, 0)$

②  $f(x) = x^2 + 1$

①  $a = 1$

$a > 0$  →  $\cup$  → Min at  $y = 1$

②  $x = -\frac{0}{2(1)} = 0$

③  $f(0) = 1$   
 $(0, 1)$

③  $f(x) = -x^2 + 6x - 15$

①  $a = -1$

$a < 0$  ( $\cap$ ) max

②  $x = -\frac{6}{2(-1)} = 3$

③  $f(3) = -9 + 18 - 15$   
 $= -6$   
 $(3, -6)$

Max at  $y = -6$

④  $f(x) = 2x^2 + 4x - 6$

①  $a = 2$

$a > 0$  →  $\cup$  → min at  $y = -8$

②  $x = -\frac{4}{2(2)} = -1$

③  $f(-1) = 2 - 4 - 6$   
 $= -8$   
 $(-1, -8)$

⑤  $f(x) = -x^2 + 4x - 1$

①  $a = -1$

$a < 0$  →  $\cap$  → max at  $y = 3$

②  $x = -\frac{4}{2(-1)} = 2$

③  $f(2) = -4 + 8 - 1$   
 $= 3$   
 $(2, 3)$