

# Unit 5 – Quadratics – Practice 1

Name: HIRSCH

Standard Form:  $f(x) = ax^2 + bx + c$

1.  $f(x) = 4x^2 + 8x - 1$

Standard Form:  $4x^2 + 8x - 1$

$a = 4$   $b = 8$   $c = -1$

Does it open up or down? *up*  
 intercept:  $(0, -1)$

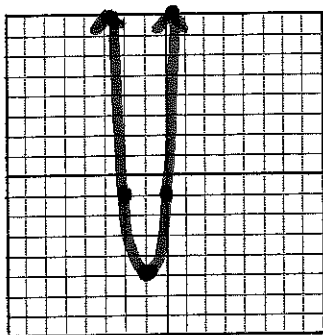
Vertex:

$x = \frac{-8}{2(4)} = -1$

$y = 4(-1)^2 + 8(-1) - 1 = -5$

$(-1, -5)$

AOS:  $x = -1$



2.  $f(x) = 4x + x^2 - 3$

Standard Form:  $x^2 + 4x - 3$

$a = 1$   $b = 4$   $c = -3$

Does it open up or down? *up*  
 y-intercept:  $(0, -3)$

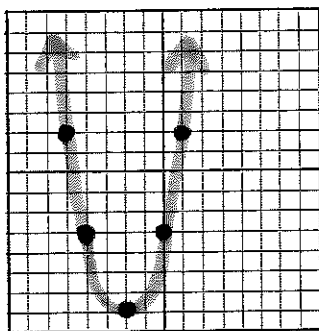
Vertex:

$x = \frac{-4}{2(1)} = -2$

$y = (-2)^2 + 4(-2) - 3 = -7$

$(-2, -7)$

AOS:  $x = -2$



3.  $f(x) = 5 - 2x - x^2$

Standard Form:  $-x^2 - 2x + 5$

$a = -1$   $b = -2$   $c = 5$

Does it open up or down? *down*  
 y-intercept:  $(0, 5)$

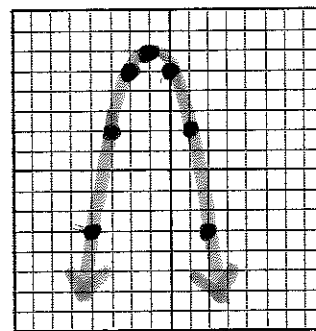
Vertex:

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

$y = -(-1)^2 - 2(-1) + 5 = 6$

$(-1, 6)$

AOS:  $x = -1$



4.  $f(x) = x^2 - 8x + 7$

$a = 1$   $b = -8$   $c = 7$

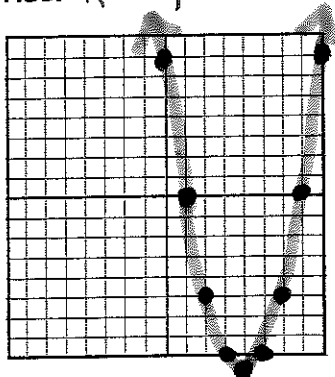
Does it open up or down? *up*  
 intercept:  $(0, 7)$

Vertex:  $x = \frac{8}{2(1)} = 4$

$y = (4)^2 - 8(4) + 7 = -9$

$(4, -9)$

AOS:  $x = 4$



5.  $f(x) = -2x^2 - 8x - 8$

$a = -2$   $b = -8$   $c = -8$

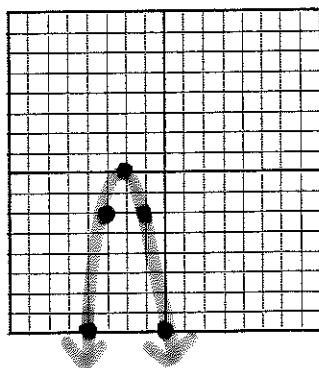
Does it open up or down? *down*  
 y-intercept:  $(0, -8)$

Vertex:  $x = \frac{8}{2(-2)} = -2$

$y = -2(-2)^2 - 8(-2) - 8 = 0$

$(-2, 0)$

AOS:  $x = -2$



6.  $f(x) = -x^2 - 2x + 5$

$a = -1$   $b = -2$   $c = 5$

Does it open up or down? *down*  
 y-intercept:  $(0, 5)$

Vertex:  $x = \frac{2}{2(-1)} = -1$

$y = -(-1)^2 - 2(-1) + 5 = 6$

$(-1, 6)$

AOS:  $x = -1$

