Name

Alg I

9.2 Ext.

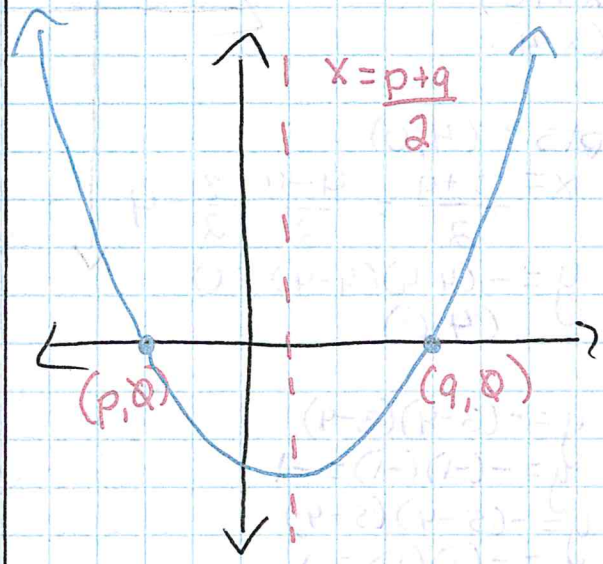
Graph Quadratic Functions in Intercept Form

I can graph quadratic functions in intercept form.

Ch. 9 Quiz

Intercept Form: $y = a(x-p)(x-q)$

Graph of Intercept Form:



* x-intercepts are p/q
* Axis of Symmetry: $x = \frac{p+q}{2}$
* If $a>0$, opens up
  If $a<0$, opens down

Example 1:

(a) $y = 3(x-6)(x-3)$

#1: x-intercepts: (6,0) and (3,0)

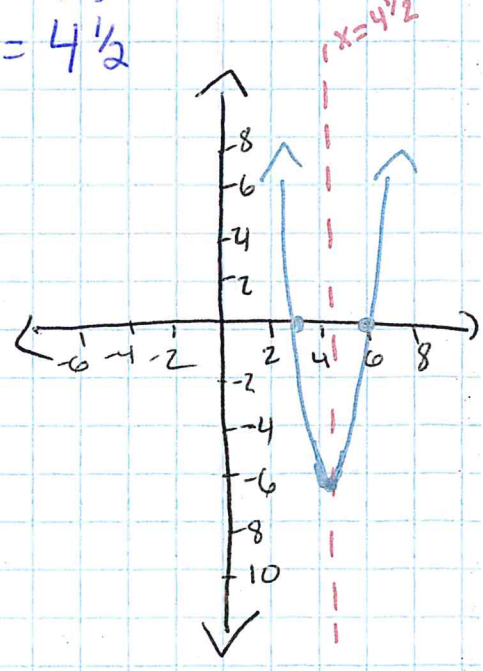
#2: AOS: $x = \frac{p+q}{2} = \frac{6+3}{2} = \frac{9}{2} = 4\frac{1}{2}$

#3: Vertex: $y = 3(4\frac{1}{2}-6)(4\frac{1}{2}-3)$

$y = 3(-1\frac{1}{2})(1\frac{1}{2})$

$y = -6.75$

$(4.5, -6.75)$



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Ch. 9 Quiz

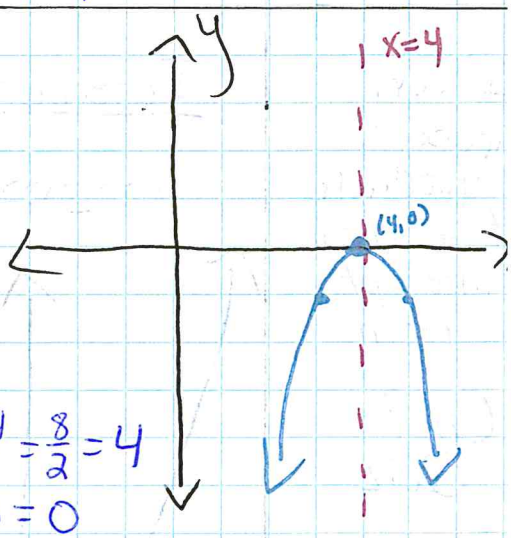
* Complete Skills Practice, pg. 584, #

Example 2:

10) $y = -x^2 + 8x - 16$

$y = -(x^2 - 8x + 16)$

$y = -(x-4)(x-4)$



#1: x-intercepts: (4,0)

#2: AOS: $x = \frac{p+q}{2} = \frac{4+4}{2} = \frac{8}{2} = 4$

#3: vertex: $y = -(4-4)(4-4) = 0$

(4,0)

x	3	5
y	-1	-1

$y = -(3-4)(3-4)$

$y = -(-1)(-1) = -1$

$y = -(5-4)(5-4)$

$y = -(1)(1) = -1$