

Common Core Math 2 Unit 2 Modeling with Quadratics

Standard and Vertex form HW

	1. $y = (x+6)^2 - 4$	2. $y = 2(x-2)^2 - 2$	3. $y = -3(x+2)^2 + 3$
Standard Form	$y = x^2 + 12x + 32$	$2x^2 - 8x + 6$	$-3x^2 - 12x - 9$
Factored Form	$(x+8)(x+4)$	$2(x-1)(x-3)$	$-3(x+3)(x+1)$
Solutions	$(-8, 0) (-4, 0)$	$(1, 0) (3, 0)$	$(-3, 0) (-1, 0)$
Y-Intercepts	$(0, 32)$	$(0, 6)$	$(0, -9)$
Axis of Symmetry	$x = -6$	$x = 2$	$x = -2$
Vertex	$(-6, -4)$	$(2, -2)$	$(-2, 3)$
Max/Min	min	min	max
Graph			

translated
6 left
4 down

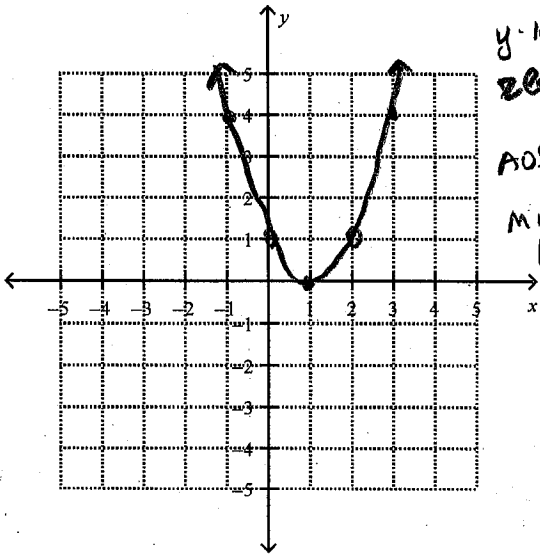
stretch 2
2 right
2 down

reflect x-axis
2 left
3 up
stretch 3

Properties of Quadratics 2

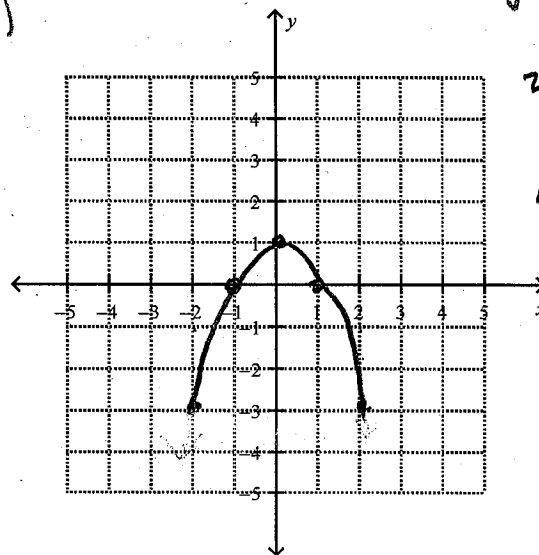
Directions: Graph the function over the given domain. Identify the intercepts, zeroes, axis of symmetry, extrema (maximum/minimum - vertex).

1. $f(x) = x^2 - 2x + 1; \{-\infty \leq x \leq \infty\}$



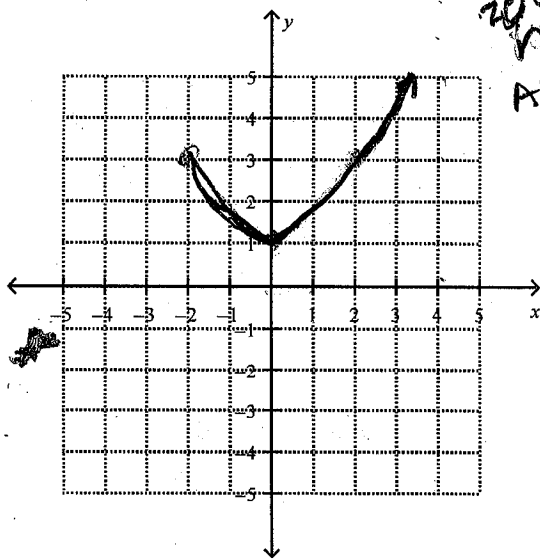
y-int (0, 1)
 zeros (1, 0)
 AOS $x = 1$
 Min (1, 0)

2. $g(x) = -x^2 + 1; \{-2 \leq x < 2\}$



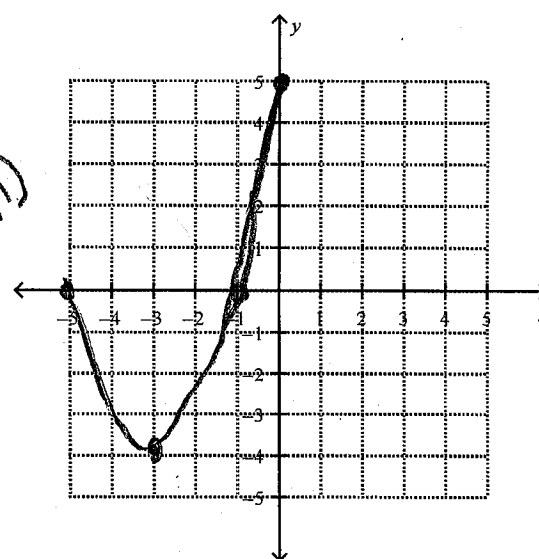
y-int (0, 1)
 zeros (-1, 0) (1, 0)
 AOS $x = 0$
 Max (0, 1)

3. $y = \frac{1}{2}x^2 + 1; \{x \geq -2\}$



y-int (0, 1)
 zeros none
 AOS $x = 0$
 Min (0, 1)

4. $h(x) = x^2 + 6x + 5; \{-\infty \leq x < 0\}$



y-int (0, 5)
 zeros (-5, 0) (-1, 0)
 AOS $x = -3$
 Min (-3, -4)