Accelerated Math I
The Great Quadratic
CFA for Test 6

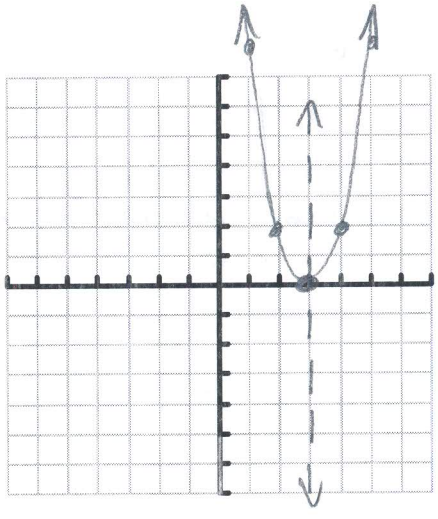
Name_____

Date ____/____/____ Block ____

Graphing Quadratic Equations

(8 each)

1. $f(x) = 2x^2 - 12x + 18$



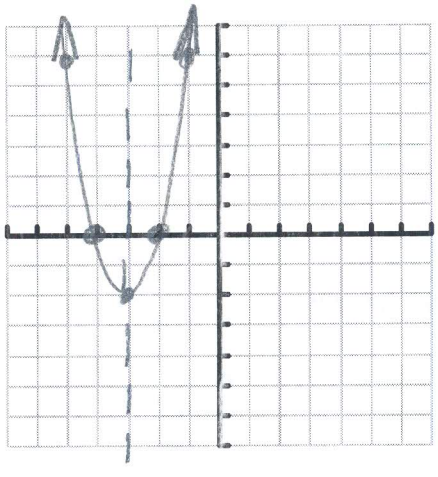
x-Intercept(s): (3,0) ____

Vertex: (3, 0)

Axis of Symmetry: $x = 3$

y-intercept: (0, 18)

2. $g(x) = 2(x+2)(x+4)$



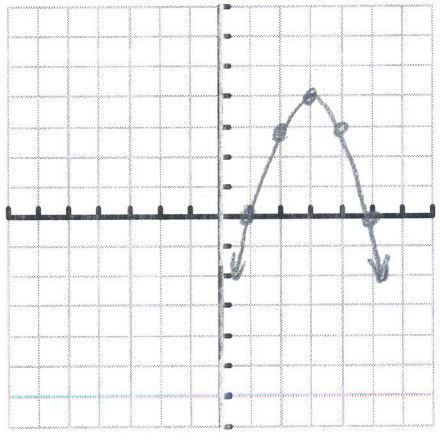
x-Intercept(s): (-2,0) (-4,0)

Vertex: (-3,-2)

Axis of Symmetry: $x = -3$

y-intercept: (0,16)

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



x-Intercept(s): (1,0) (5,0)

Vertex: (3,4)

Axis of Symmetry: $x = 3$

y-intercept: (0,-5)

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Converting Quadratic Equations

(3 each)

4. Convert the following equations to standard form.

a. $y = 2(x+5)^2 - 23$

$= 2(x^2+10x+25) - 23$

$= 2x^2+20x+50-23$

$y = 2x^2+20x+27$

b. $y = 3(2x-3)(x-1)$

$= 3(2x^2-5x+3)$

$y = 6x^2-15x+9$

5. Convert the following equations to vertex form.

a. $y = 4x^2 - 8x + 15$

$= 4(x^2-2x+1)+15-4$

$y = 4(x-1)^2+11$

b. $y = (x+3)(x-9)$

$= x^2-6x-27$

$= (x^2-6x+9)-27-9$

$y = (x-3)^2-36$

6. Convert the following equations to intercept form.

a. $y = x^2+3x-18$

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

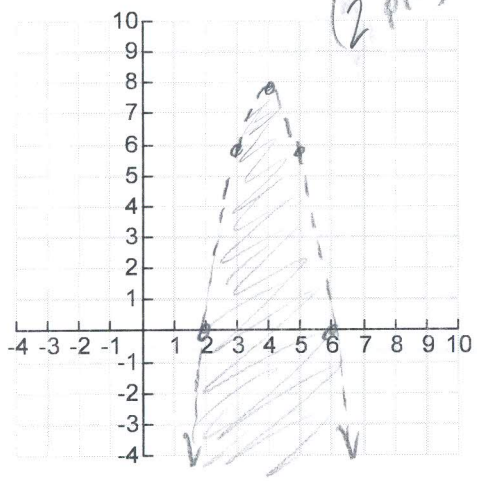
b. $y = 4x^2+5x-6$

$y = (4x-3)(x+2)$

Quadratic Inequalities

7. Graph $y < -2(x-4)^2 + 8$

(2 pts)



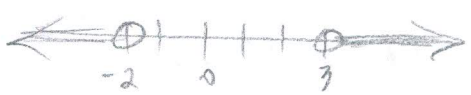
8. Solve the following quadratic inequality algebraically (3 each)

$x^2 - x - 6 > 0$

$(x-3)(x+2)=0$

$x=3 \quad x=-2$

$x < -2$ or $x > 3$



9. Solve the following quadratic inequality algebraically

$3x^2 - 4x \leq 0$

$x(3x-4)=0$

$x=0 \quad x=\frac{4}{3}$

$0 \leq x \leq \frac{4}{3}$