

Final Review Day 1

Focus on Quadratics

1) Solve the quadratic equation by Factoring and the Zero Product Property (5.1.3, 5.1.4)

a) $x^2 - 8x + 9 = -7$

b) $3x^2 + x - 10 = 0$

2) Solve the quadratic equation by any method of your choice (5.1.3, 5.2.4)

a) $x^2 + 9x = 0$

b) $8x^2 + 3x - 1 = 0$

3) Solve quadratic in vertex form (5.2.1)

a) $(x - 2)^2 = 16$

b) $3(x + 1)^2 + 7 = 28$

4) Write the equation of this quadratic function (Remember to trust but verify) (5.1.4)

a)

x	-4	-3	-2	-1	0	1	2	3	4
y	0	-3	-4	-3	0	5	12	21	32

Equation: _____

b)

x	-4	-3	-2	-1	0	1	2	3	4
y	-72	-45	-24	-9	0	3	0	-9	-24

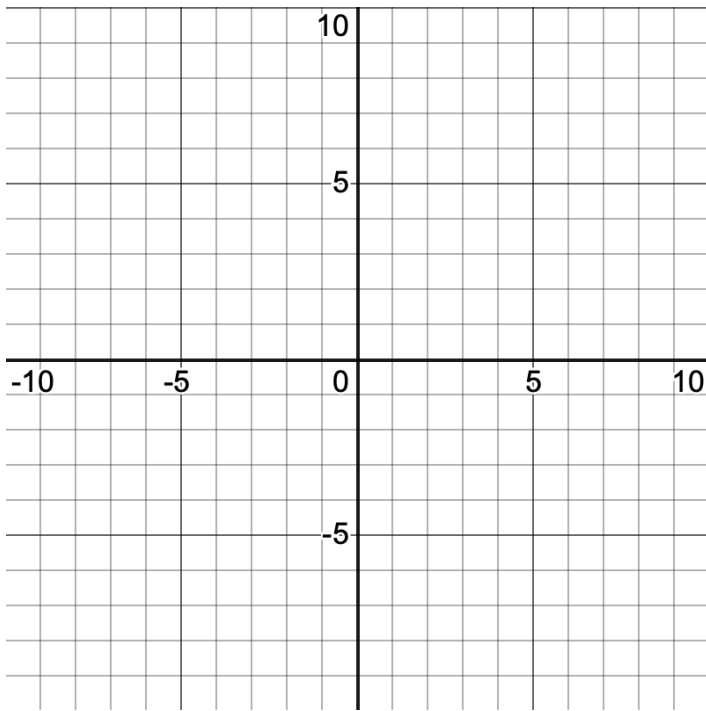
Equation: _____

5) Sketch a graph of a parabola that has: (5.1.5)

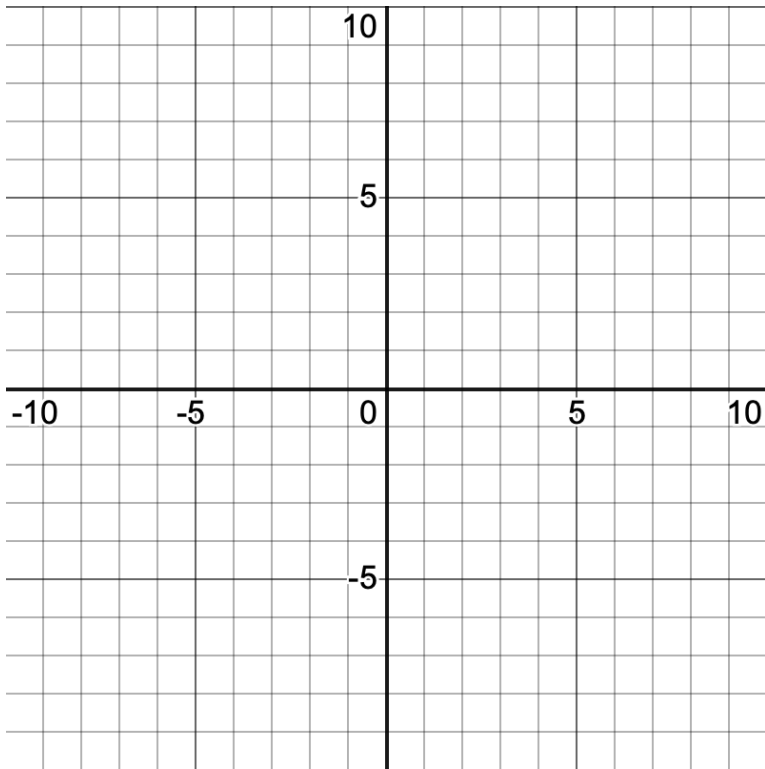
a) Two solutions (zeros) and opens downward	b) One Solution (zero) and opens upward	c) Two solutions (zeros) at (3, 0) and (-5, 0) and with a vertex at (-1, -6)
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6) Sketch the graph of the parabola (5.1.3)

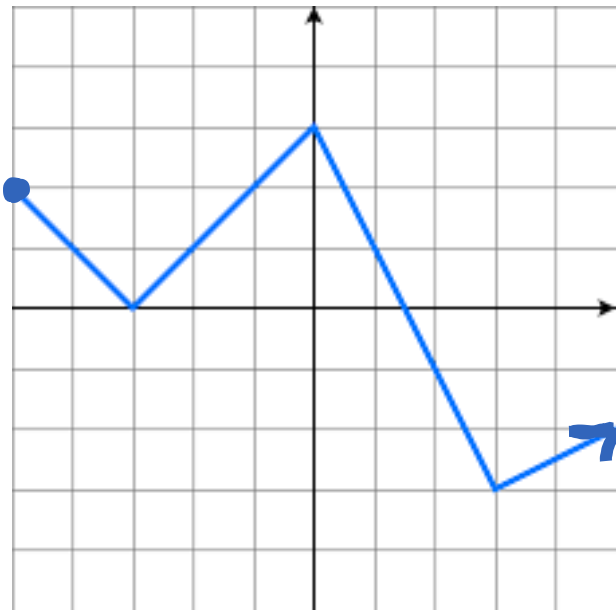
a) Sketch the parabola $y = x^2 - 2x - 3$ using the x-intercepts and the vertex. State the y-intercept.



b) Sketch the parabola $y = x^2 + 4x$ using the x-intercepts and the vertex. State the y-intercept.



7. Graph Analysis (Describing Graphs Review)



a) Domain (x-values):

b) Range (y-values):

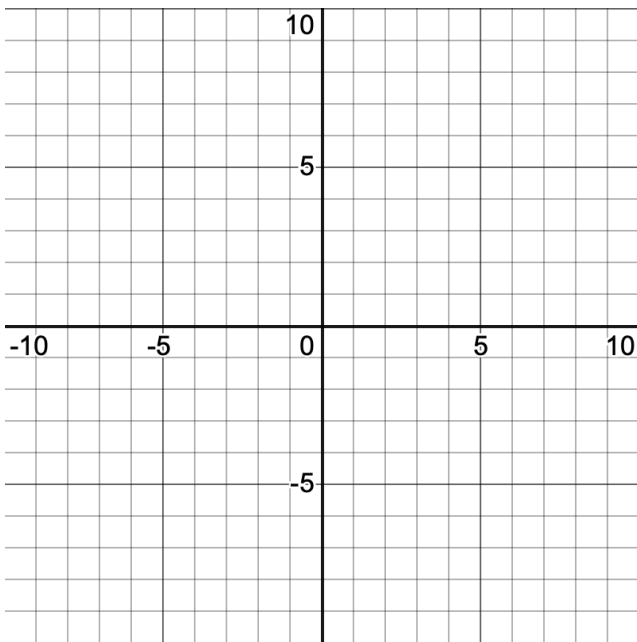
c) Maximum and Minimum Values (y-values):

d) Intervals where function is increasing (x-values):

e) Intervals where function is decreasing (x-values):

8) Graph the following. Describe the transformation. State the x and y-intercepts. (9.1.2, 9.1.3, 9.1.4)

$$f(x) = 2(x - 3)^2 - 8$$

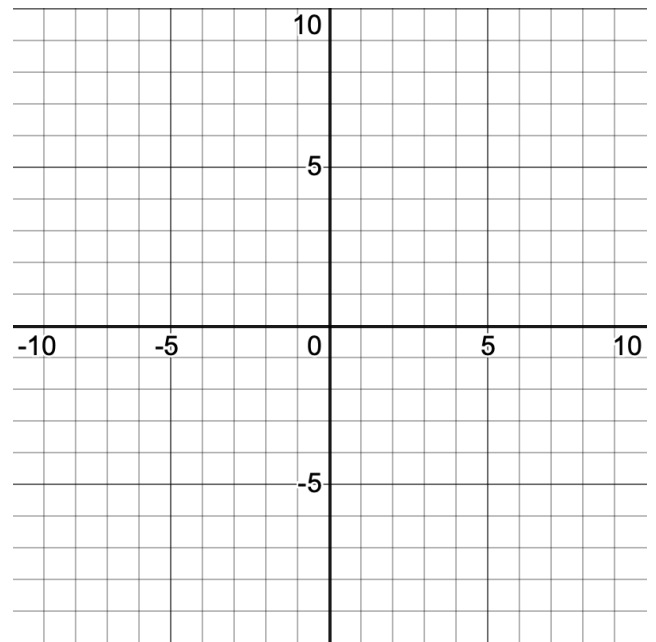


Transformations:

x-intercepts:

y-intercept:

$$f(x) = -|x + 4| + 2$$



Transformations:

x-intercepts:

y-intercept: