

Transformations**LEARNING PLAN**

(Chapter 2)

Skill / Understanding:	Review / Practice Problems:
<p>Forms of Quadratics</p> <ul style="list-style-type: none"> <input type="checkbox"/> I can rewrite in factored form and identify the x-intercepts, orientation & stretch factor from this form. <input type="checkbox"/> I can rewrite in standard form and use this form to identify the y-intercept, orientation, and stretch factor. <input type="checkbox"/> I can rewrite in graphing form and use this form to identify the vertex, orientation, and stretch factor. <input type="checkbox"/> I can graph a parabola from graphing form or factored form. 	2-31, 2-37, 2-64, 2-83, and CL 2-145
<p>Modeling and Curve Fitting</p> <ul style="list-style-type: none"> <input type="checkbox"/> I can model and solve everyday problems using quadratic functions. <input type="checkbox"/> I can calculate the equation of a quadratic function, given the vertex and a point on the curve. 	2-18, 2-30, 2-85, 2-139, and CL 2-143
<p>Families of Functions</p> <ul style="list-style-type: none"> <input type="checkbox"/> I can write equations of transformed functions/equations and/or sketch their graphs <input type="checkbox"/> I know the equations of the parent function of quadratic, square root, absolute value, and cubic functions, and equations of circles. <input type="checkbox"/> I know the graphing form of the functions listed above and of circles. 	2-43, 2-44, 2-56, 2-63, 2-97, 2-102, 2-119, CL 2-144, CL 2-146, and CL 2-148
<p>Solving Quadratics</p> <ul style="list-style-type: none"> <input type="checkbox"/> I can solve Quadratic Equations by factoring and using the ZPP. <input type="checkbox"/> I can solve Quadratic Equations with the Quadratic Formula. 	Checkpoint 2, CL 1-116, 2-6, 2-21(c), 2-65(a), 2-105, 2-123(b), 2-128, and CL 2-149.

Practice Problems:

- 1) Rewrite the quadratic equation in factored form and identify the x-intercepts, orientation and stretch factor.

$$y = 5x^2 - 14x + 8$$

- 2) Rewrite the quadratic equation in standard form and identify the y-intercept, orientation and stretch factor.

$$y = -3(x + 1)^2 - 6$$

- 3) Rewrite the quadratic equation in graphing form and identify the vertex, orientation and stretch factor.

$$y = x^2 + 2x + 2$$

- 4) Graph the quadratic equation:

$$y = -\frac{1}{3}(x + 4)(x - 2)$$

- 5) Tommy the frog is working on his jumps. He is trying to jump as high and as far as he can. His best jump is 12 inches high and 30 inches long. Write an equation that models his jump.

- 6) The parent graph of an absolute value function is translated left by 2 units, reflected across the x-axis and compressed vertically by a factor of $\frac{1}{2}$ and translated up 4 units. Write the equation of the transformed function and graph the function.

- 7) Solve the following equations using the method stated. When appropriate simplify final answer.

a. Solve using the quadratic formula : $x^2 + 2x + 3 = 0$

b. Solve by factoring: $2x^2 + 5x + 2 = 0$