ALGEBRA II JOURNAL
Quadratic Functions

1. (a) An equation is a quadratic equation if _____ .

    (b) Standard form of a quadratic equation is _____ .

    (b) The shape of the graph of any quadratic equation is a(n) _____ .

2. (a) The equation of the line of symmetry is always written as _____ .

    (b) A parabola will have: (i) a normal width if _____ .

    (ii) a wide width (vertical shrink) if _____ .

    (iii) a narrow width (vertical stretch) if _____ .

3. Describe all the changes that occur in the graph of $y = x^2$ if it is changed to:

4. $y = \dfrac{3}{5}(x-7)^2 - 9$ _____

    _____

5. $y = -4(x+8)^2 - 13.$ _____

    _____

6. Write **an example** of how to make all of the following occur using the function $f(x) = x^2$:
    (a) Reflect across the y-axis _____   (c) Wider than normal_____

    (b) More narrow than normal _____   (d) Reflect across the x-axis _____

7. (a) Four methods for ***solving*** a quadratic equation are _____

    _____ .

    (b) Before solving a quadratic equation by any of the above methods, the equation must be set _____

    _____ .

8. (a) On a graph, the real zeros (solutions) of an equation are located _____ .

    (b) To find these with a graphing calculator, you must select Menu—_____—

    _____ and then _____ .

9. Given the roots of a quadratic equation, the original equation can be found by _____

    _____ .

10. The portion of the quadratic formula inside the radical is called _____ .

11. (a) If a real world application of quadratic equations asks for a maximum or minimum value, you

    should find _____ .

    (b) Two examples of real world applications of quadratic functions are _____

    _____

12. Important Rules, Formulas, Etc.
    a) Standard form of a quadratic function & b) method for finding the vertex

    c) Vertex form of a quadratic function and d) method for finding the vertex

    e) Intercept Form of a quadratic function & f) method for find the vertex.

    g) Quadratic formula—Show where a, b, & c come from.

    h) Formula for projectile motion—***Label each variable in the formula with what it represents.***

    i) Two constants for the acceleration of gravity