Name _____   Block ____

Study Guide: <u>Quadratics</u>

This is probably the MOST important and relevant chapter for all your Algebra-2 year. Mastering the solution of quadratic equation is very important. We want to make sure you know that.

1. You will be allowed the use of graphing calculator.

2. You need to show your work! Using graphing calculator is ok for graphing function, but not for deriving x-intercepts, y-intercepts, etc.

3. You are allowed 1 (=one) double sided formulas and examples sheet. You will not have this in the finals, but I want to make sure this time around that you know how to use the formulas. Memorizing those will come with time.

4. You will NOT have time pressure in this test. I want to make sure that with optimal conditions you can demonstrate your knowledge of the material.

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Alg2:   Quadratics

1. **Show your work**.
2. Clearly indicate (underline/box) your final answer.
3. You are allowed to use graphic calculator.

1. Solve using MATH method $$x^2 + x - 12 = 0$$	2. Solve using MATH method $$10x^2 - x - 2 = 0$$
3. Solve using complete the square $x^2 - 4x + 1 = 0$	4. Solve using quadratic formula $$2x^2 - 3x - 2 = 0$$
5. Solve using quadratic formula $$3x^2 - 18x + 6 = 0$$	6. Solve using quadratic formula $$x^2 - 4x + 13 = 0$$

7. Solve $$x^2 + 5 = 4x$$	8. Solve $$(x - 1)^2 + 2(x - 1) = 24$$
9. Solve $$(x - 1)^2 + 2(x - 1) + 35 = 0$$	10. Solve $$x^2 + 2x = 0$$

Given the expression

$$4x - x^2 - 1$$

11. Write the quadratic expression in:
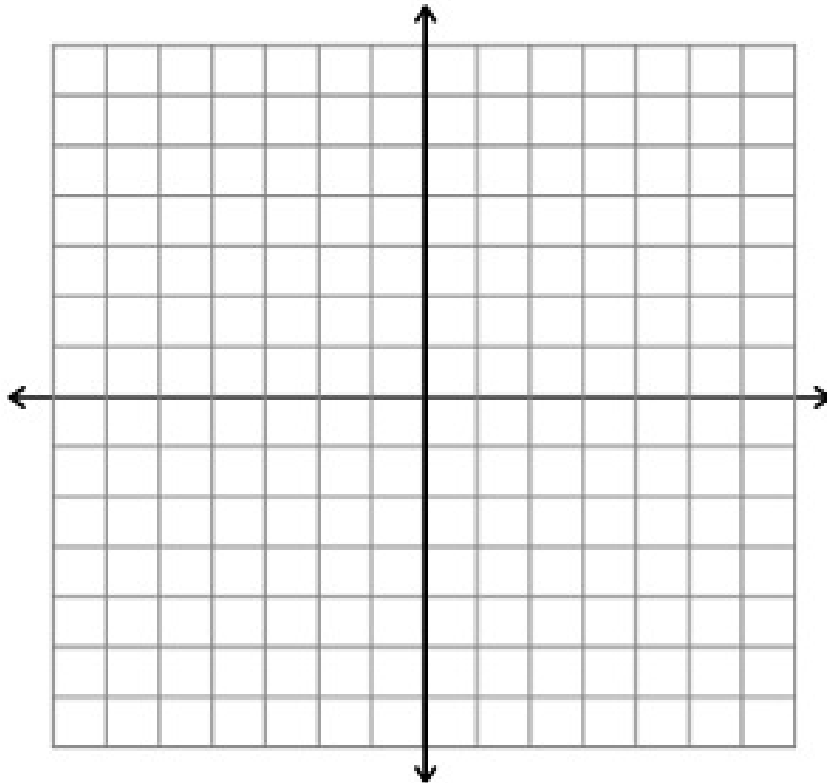
   a. Standard form.

   b. Vertex form.

    c. Factored form.

12. What are the Y-intercepts and X-intercepts of this quadratic?

13. Graph the function, and indicate clearly the vertex and the axes intercepts.

14. Given the vertex form

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

a. Write f(x) in standard form

b. Write f(x) in factored form

15. Given the factored form

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

a. Write f(x) in standard form.

b. Write f(x) in vertex form.

16. An object in launched directly upward at   64   feet per second (ft/s) from a
platform   80   feet high.
(a) When will the object attain its maximum height?

(b) What will be the object's maximum height?

=== End of test ====