Name_____Per: _____

Honors 1

*Quadratics Unit 2 **Practice Test** and Chapter 9*

Factor each trinomial.

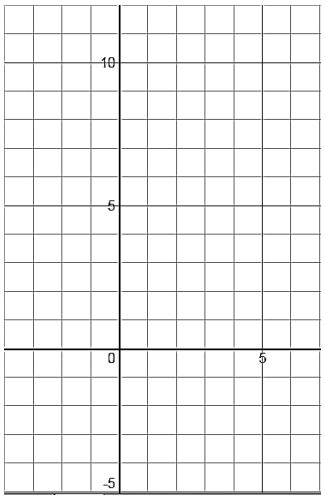
1. $3x^2 - 11x - 20$	2. $4x^2 - 13x + 10$	3. $2x^2 + 22x + 56$

Solve the equation *by factoring.*

4. $3x^2 + 17x + 20 = 0$	5. $-3x^2 - 16 = -26x$

Graph the equation. (Note: #7 is NOT factorable, so you have to use a different technique)

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

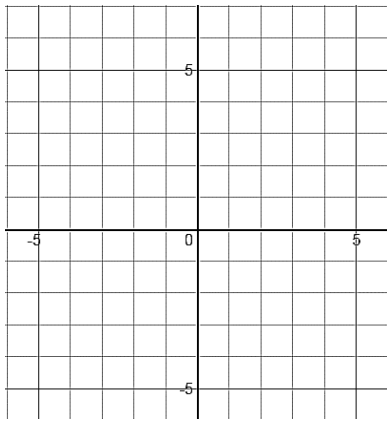


a. Zeros: _____ _____

b. Vertex = (,)

c. y – intercept = _____

7. $y = x^2 + 2x + 3$



a. Vertex = (,)

b. Y-intercept = _____

Solve.

8. $8x^2 - 50 = 0$	9. $(x+5)^2 + 8 = 44$	10. $2(x-2)^2 - 7 = 91$

11. Find the value of c that makes each trinomial a perfect square.

$x^2 + 26x + \_\_\_\_ =$

$x^2 - 4x + \_\_\_\_ =$

$x^2 + 5x + \_\_\_\_ =$

12. Solve the equation **by completing the square**.

$$x^2 + 3x + 21 = 22$$

13. Convert from standard form to vertex form. State where the vertex is located.

$$y = x^2 + 12x + 32$$

14. Solve by the quadratic forumula **and show your steps**.

$$4x^2 + 5x = 6$$

15. Solve by any method of your choice.

$$\frac{1}{2}(x+4)^2 + 10 = 42$$

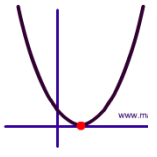
16. Solve by any method of your choice.

$$\frac{(x+3)^2}{x} = \frac{-7}{5}$$

17. Find the value of *A* in the function so that the function *f(x)* has an x-intercept at $x = 4$ and a vertex at $(1, -9)$:

$f(x) = x^2 - 2x + A$

18. State whether each situation has a positive, negative or zero discriminant.

$y = 3x^2 - 4x + 7$		Two x-intercepts