Math 2 - Honors
Unit 3 – More Quadratic Functions
Test Review

Name: _____
Date: _____ **Pd:** _____

➢ Simplify each of the following radicals.

1. $\sqrt{-24}$	2. $\pm\sqrt{252}$	3. $-3\sqrt{-48}$	4. $\sqrt{50}$	5. $\pm\sqrt{63}$
6. $2\sqrt{147}$	7. $\frac{3}{4}\sqrt{64}$	8. $5\sqrt{-17}$	9. $\pm\sqrt{162}$	10. $-\sqrt{\frac{25}{81}}$

➢ Solve by **Completing the Square**. Solve by **Quadratic Formula**.

11. $4x^2 - 4x + 3 = 0$	12. $2x^2 + 6x = -3$

➢ Solve each quadratic equation by the best method: **Factoring, Completing the Square or the Quadratic Formula**

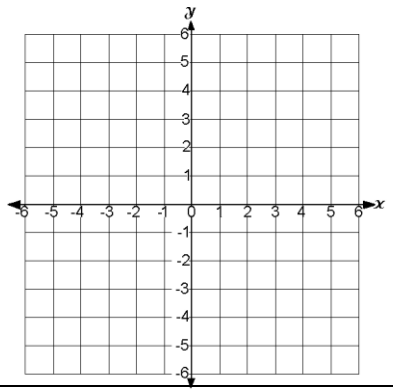
13. $9x^2 - 6x - 11 = 0$	16. $7x^2 - 5x = 0$
14. $8x^2 + 5 = -6x$	17. $3x^2 - 6x + 3 = 0$
15. $x^2 + 5x = 6$	18. $4x^2 + 4x - 8 = 1$

➢ Quadratic Systems – Solve by substitution.

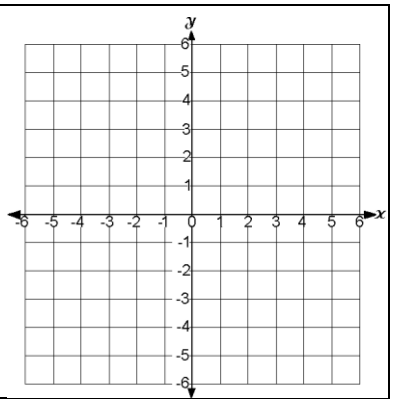
19. $y = x^2 + 3$ $y = 4x$	20. $y = 3x^2 - 12x + 1$ $y = -2x - 7$

➢ Graphing Quadratic Inequalities

21. $y \leq x^2 - 6x + 10$

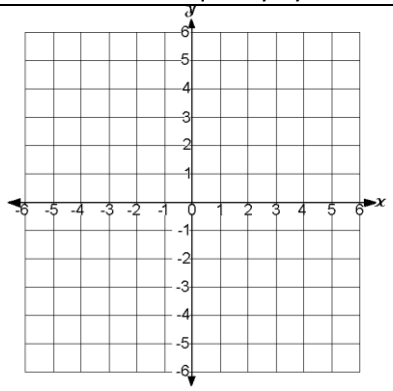


22. $y > -2(x-1)^2 + 5$

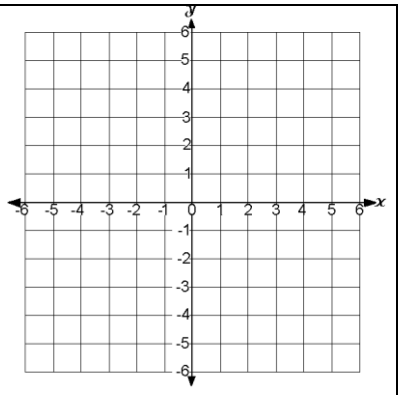


➢ Graphing Quadratic and Linear Inequality Systems

23. $y \geq x^2 + 8x + 14$
$y \leq -2x - 4$



24. $y < -(x-2)^2 + 4$
$y > (x-2)^2$

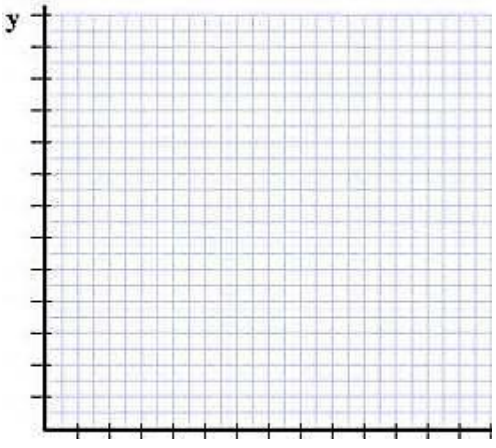


➢ Solve each Quadratic Inequality. Write your solution in interval notation.

25. $(x-5)(x-2) \leq 0$	26. $x^2 - 12x + 32 \geq -3$	27. $x^2 - 64 < 0$

➢ Application of Quadratic and Linear Inequalities

28. Each year the 'Rock the Vote' committee organizes a public rally. Based on previous years, the organizers decided that the income from ticket sales, $I(t)$, is related to ticket price (t) by the equation $\boldsymbol{I(t) = -50t^2 + 500t}$. Cost, $C(t)$, of operating the public event is also related to ticket price (t) by the equation $\boldsymbol{C(t) = -50t + 500}$.



A) What ticket price would generate the maximum income? Where is this shown on the graph?

B) For what ticket price would the operating cost be equal to the income from ticket sales?

C) Write and solve an inequality to show where the operating cost is greater than the income from ticket sales.

D) Write and solve an inequality to show where the income from ticket sales is greater than the operating cost.