

Name: _____

Advanced Algebra 2

Date: _____ Period: _____

4.5-4.6 Quiz Review

Solve the following equations by factoring.

1. $x^2 - 2x - 24 = 0$	2. $3x^2 = x + 4$
3. $x^2 - 6x + 9 = 0$	4. $3x^2 + 45 = 24x$
5. $4x^2 + 6x = 0$	6. $12x^2 - x - 1 = 0$

Solve the following by graphing on a graphing calculator. Round to the nearest thousandth.

7. $\frac{2}{3}x^2 + 3x - 6 = -2x$	8. $-3x^2 - 2x = -2$
9. A woman drops a front door key to her husband from their apartment window several stories above the ground. The function $h = -16t^2 + 64$ gives the height h of the key in feet, t seconds after she releases it. a. What is the height of the key before it is released? b. How long does it take the key to reach the ground?	

Solve the following equations by finding square roots. Simplify all irrational answers.

10. $3x^2 = 75$

11. $5x^2 - 45 = 0$

12. $4x^2 - 49 = 0$

13. A box is 4 in. high. Its length is 1.5 times its width. The volume of the box is 1350 in^3 . What are the width and length of the box?

Solve the following equations by factoring the left side of the equations.

14. $x^2 + 12x + 36 = 25$

15. $x^2 - 10x + 25 = 144$

16. $x^2 + 6x + 9 = \frac{49}{4}$

17. $16x^2 + 8x + 1 = 16$

Solve the following equations by completing the square.

18. $x^2 + 10x - 1 = 0$

19. $x^2 + 2x - 7 = 0$

$$20. 4x^2 + 20x + 1 = 0$$

$$21. 3x^2 + 4x = 2x^2 + 3$$

Rewrite the following equations in vertex form by completing the square.

$$22. y = x^2 - 6x + 4$$

$$23. y = x^2 + 14x + 50$$

$$24. y = 2x^2 + 8x + 2$$

$$25. y = -2x^2 + 6x - 2$$