Algebra Review Solving Quadratics

Name _____

I.   Solve by Factoring (any method)

1) $x^2 - 64 = 0$ 2) $x^2 - 6x - 16 = 0$ 3) $x^2 + 3x = 40$

4) $2x^2 + 3x + 1 = 0$ 5) $x^2 - 100 = 0$ 6) $x^2 + 6x = 0$

II.   Solve by Square Roots

7) $x^2 = 64$ 8) $4x^2 = 81$ 9) $x^2 + 7 = -300$ 10) $(x - 5)^2 = 36$

III. Solve by using the quadratic formula:

11) $x^2 + 3x + 2 = 0$ 12) $4x^2 - 8x = 1$ 13) $x^2 + 8x = 0$

IV Solve these by completing the square:

14) $x^2 - 2x - 8 = 0$ 15) $x^2 + 2x - 48 = -6$ 16) $8x^2 - 16x + 32 = 0$

V. Solve each equation using an efficient method. Show your work.

17) $x^2 + 11x + 18 = 0$ 18) $x^2 + 2x + 1 = 15$ 19) $7x^2 - 9x + 1 = 0$

20) $(x + 2)^2 = 36$ 21) $x^2 - 10x + 25 = 0$ 22) $x^2 + 3x + 7 = 0$

23) $x^2 = 36$ 24) $x^2 - 6x + 2 = 0$ 25) $x^2 - 5x + 4 = 0$

VI. Word Problems:

26) The altitude of a triangle is 5 less than its base. The area of the triangle is 42 square inches. Find its base and altitude.

27) If the measure of one side of a square is increased by 2 centimeters and the measure of the adjacent side is decreased by 2 centimeters, the area of the resulting rectangle is 32 square centimeters. Find the measure of one side of the square (the **original** figure).

28) The length of a rectangle is 4 m more than the width. The area is 30 m². Find the width and the length.

29) The product of two consecutive **even** integers is 288. Find the two integers.