SOLVING QUADRATIC EQUATIONS REVIEW

Directions: You must complete this worksheet. Show all your work to receive full credit. I will check as a homework grade on Monday.

Directions: Solve each quadratic equation by square roots.

1.) $4x^2 = 81$

2.) $(4x - 3)^2 + 7 = 39$

3.) $5 - 6y^2 = 113$

4) $2x^2 - 2 = 6$

5) $13p^2 - 3 = 4209$

6) $10(x - 7)^2 = 440$

Directions: Solve each quadratic equation by factoring.

7.) $x^2 - 64 = 0$

8.) $8x^2 - 2x - 18 = -15$

9.) $7x^2 = -28x$

10.) $2x^2 + 3x + 1 = 0$

11.) $4x^2 - 8x = -3$

12.) $12x^2 - 36x + 27 = 0$

Directions: Solve each quadratic equation using the quadratic formula. (We did not go over this section yet but try them out!)

SOLVING QUADRATIC EQUATIONS USING THE QUADRATIC FORMULA
$$ax^2 + bx + c = 0$$ $$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Steps:

1. Get all terms on one side and set equal to 0
2. Plug in the a, b and c into the equation
3. Simplify the radical (if negative → use the "I"

13.) $x^2 - 4x - 8 = 0$ 14.) $9x^2 - 11 = 6x$ 15.) $8x^2 + 6x = -5$

Ex:

a = 1

b = -4

c = -8

Directions: Solve each quadratic equation by any method of your choice.

22.) $3x^2 - 5x = 12$ 23.) $x^2 + 3x = 0$ 24.) $y^2 + 2y + 1 = 0$

25.) $9y^2 + 6y - 8 = 0$ 26.) $6y^2 - 13y + 6 = 0$ 27.) $x^2 - 12x + 23 = 0$

Directions: Find the discriminant of the quadratic equation and give the number and type of solutions of the equation.

(WE DID NOT GO THROUGH THIS SECTION YET, BUT PLEASE STILL TRY THESE OUTS.)

THE DISCRIMINANT

■ The ___DISCRIMINANT___ tells you how many solutions and what type you will have.

POSITIVE   2 real solutions

NEGATIVE   2 imaginary solutions

ZERO   1 real solution

$$b^2 - 4ac$$

Steps:

1. Plug a, b and c into the equation above
2. Simplify
3. Determine the number of solutions

25.) $2x^2 - 3x + 1 = 0$ 26.) $x^2 + 4x = -7$ 27.) $x^2 + 9 = 6x$