



ALGEBRA 2 TRIG 6

5.3 NOTES (#2)

Name Key
Date _____ Hour _____

PART I: GOING FROM STANDARD FORM - TO FACTORED FORM - TO THE SOLUTIONS:

1. $x^2 - 7x - 30 = 0$

$$(x-10)(x+3) = 0$$

$$x = 10 \text{ and } -3$$

2. $x^2 + 14 = 9x$

$$x^2 - 9x + 14 = 0$$

$$(x-7)(x-2) = 0$$

$$x = 7 \text{ and } 2$$

3. $x^2 + x = 20$

$$x^2 + x - 20 = 0$$

$$(x+5)(x-4) = 0$$

$$x = -5 \text{ and } 4$$

PART II: GOING FROM SOLUTIONS - TO FACTORED FORM - TO STANDARD FORM:

4. $x = -3 \text{ and } 8$

$$(x+3)(x-8) = 0$$

$$x^2 - 5x - 24 = 0$$

denominator times x, opp of numerator

5. $x = -\frac{1}{2} \text{ and } 6$

$$(2x+1)(x-6) = 0$$

$$2x^2 - 12x + 1x - 6 = 0$$

$$2x^2 - 11x - 6 = 0$$

6. $x = \frac{3}{2} \text{ and } -\frac{1}{2}$

$$(2x-3)(2x+1) = 0$$

$$4x^2 + 2x - 6x - 3 = 0$$

$$4x^2 - 4x - 3 = 0$$

PART III: FACTORING IF THE LEAD COEFFICIENT IS NOT 1 (DIVIDE OUT FIRST IF YOU CAN!):

7. $4x^2 + 4x - 24 = 0$

$$4(x^2 + x - 6) = 0$$

$$4(x+3)(x-2) = 0$$

8. $2x^2 - 3x - 5 = 0$

$$(2x-5)(x+1) = 0$$

9. $3x^2 - 13x - 10 = 0$

$$(3x+2)(x-5) = 0$$

PUTTING IT ALL TOGETHER!!!

FACTOR AND SOLVE:

10. $2x^2 + 8x - 42 = 0$

divide 2 out first!

$$2(x^2 + 4x - 21) = 0$$

$$2(x+7)(x-3) = 0$$

$$\boxed{x = -7 \text{ and } 3}$$

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

$$(3x-1)(x+4) = 0$$

$$3x-1=0$$

$$3x=1$$

$$\boxed{x = \frac{1}{3}}$$

$$x+4=0$$

$$\boxed{x = -4}$$