

Algebra 2 Trig G

5.3 Notes



Name key
Date _____ Hour _____

Part I: Going from factored form to standard form:

1. $(x+3)(x-9) = 0$

$$x^2 - 9x + 3x - 27 = 0$$

2. $(2x-1)(x+4) = 0$

$$2x^2 + 8x - 1x - 4 = 0$$

$$x^2 - 6x - 27 = 0$$

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

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

$$6x^2 + 21x - 4x - 14 = 0$$

$$6x^2 + 17x - 14 = 0$$

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Part II: Going from factored form to the solutions (x-intercepts):

4. $(x+5)(x-11) = 0$

$$\begin{aligned} x+5=0 & \quad x-11=0 \\ x=-5 & \quad x=11 \end{aligned}$$

5. $(4x-12)(x-6) = 0$

$$\begin{aligned} 4x-12=0 & \quad x-6=0 \\ 4x=12 & \quad x=6 \\ x=3 & \quad \end{aligned}$$

6. $4x(x-2)(x+10) = 0$

$$\begin{aligned} 4x=0 & \quad x-2=0 \quad x+10=0 \\ x=0 & \quad x=2 \quad x=-10 \end{aligned}$$

Part III: Going from standard form to factored form:

7. $x^2 + 5x + 6 = 0$

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

8. $x^2 + 9x - 22 = 0$

$$(x+11)(x-2) = 0$$

9. $x^2 - 6x = -8$

$$\begin{aligned} x^2 - 6x + 8 &= 0 \\ (x-4)(x-2) &= 0 \end{aligned}$$

Part IV: Going from standard form to factored form to the solutions:

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

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

$$\boxed{x=10} \quad \boxed{x=-3}$$

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

$$x^2 - 9x + 14 = 0$$
$$(x-7)(x-2) = 0$$

$$\boxed{x=7} \quad \boxed{x=2}$$

12. $x^2 + x = 20$

$$x^2 + x - 20 = 0$$
$$(x+5)(x-4) = 0$$

$$\boxed{x=-5} \quad \boxed{x=4}$$

