

Algebra 1 Quadratic Review CYU DAY ONE**Solve by Factoring**

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

$x = \pm 8$

2.) $x^2 - 6x - 16 = 0$

$x = -2, 8$

3.) $x^2 + 3x = 40$

$x = -8, 5$

4.) $2x^2 + 3x + 1 = 0$

$x = -1, -\frac{1}{2}$

5.) $x^2 - 100 = 0$

$x = \pm 10$

6.) $x^2 + 6x = 0$

$x = 0, -6$

Solve by Square Roots:

7.) $x^2 = 64$

$x = \pm 8$

8.) $4x^2 = 81$

$x = \pm \frac{9}{2}$

9.) $x^2 + 7 = -300$

 \emptyset in Alg I

10.) $(x - 5)^2 = 36$

$x = -1, 11$

Solve by using the quadratic formula.

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

$x = -1, -2$

12. $4x^2 - 8x = 1$

$x = \frac{2 \pm \sqrt{5}}{2}$

13. $x^2 + 8x = 0$

$x = -8, 0$

Solve each equation any way you want. Show your work.

14. $x^2 + 11x + 18 = 0$

$$x = -9, -2$$

15. $x^2 + 2x + 1 = 15$

$$x = -1 \pm \sqrt{15}$$

16. $7x^2 - 9x + 1 = 0$

$$x = \frac{9 \pm \sqrt{53}}{14}$$

17. $(x + 2)^2 = 36$

$$x = 4, -8$$

18. $x^2 - 10x + 25 = 0$

$$x = 5$$

19. $x^2 + 3x + 7 = 0$

$$\emptyset \text{ (For now)}$$

20. $x^2 = 36$

$$x = \pm 6$$

21. $x^2 - 6x + 2 = 0$

$$x = 3 \pm \sqrt{7}$$

22. $x^2 - 5x + 4 = 0$

$$x = 4, 1$$

REASONING:

20.) Which method can't you use to solve this problem? $x^2 - 47 = 0$

Circle one: Factoring Completing the Square Quadratic Formula

Explain why: none!

21.) Which method can you use to solve all quadratic equations?

Circle one: Factoring Completing the Square Quadratic Formula

Explain why: Always works the easiest, find a, b, c!

22.) What are the **two mistakes** in setting up the quadratic formula?

Solve: $2x^2 - x - 6 = 0$

$$x = \frac{-1 \pm \sqrt{(-1)^2 - 4(2)(6)}}{2(2)}$$

$a = 2$
 $b = -1$
 $c = -6$

$-1(-1)$

$c = -6$

23.) Factor the following: Don't Solve!

a. $x^2 - 12x + 32$

$(x-8)(x-4)$

b. $6x^2 + 13x + 6$

$(2x+3)^2$

c. $x^2 - 25$

$(x+5)(x-5)$

d. $12x^2 - x - 6$

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

e. $6x^2 + 27x - 15$

$3(2x-1)(x+5)$

25.) Clean up the following:

a. $\frac{-8 \pm 4\sqrt{2}}{2}$

$-4 \pm 2\sqrt{2}$

b. $\frac{5 \pm 10\sqrt{3}}{10}$

$\frac{1 \pm 2\sqrt{3}}{2}$

26.) Simplify the following:

a. $\sqrt{12} + \sqrt{48}$

$6\sqrt{3}$

b. $\sqrt{80}$

$4\sqrt{5}$

c. $4\sqrt{20}$

$8\sqrt{5}$

d. $(\sqrt{8})(\sqrt{9})$

$6\sqrt{2}$



e. $3 + \sqrt{8} - \sqrt{2} + 3\sqrt{5} - 4 - 3\sqrt{5}$

$-1 + \sqrt{2}$

f. $(3\sqrt{2} + 5)(6\sqrt{2} - 1)$

$31 + 27\sqrt{2}$

NEW! g. $\sqrt{-169}$
 $13i$

h. $\sqrt{-60}$
 $2i\sqrt{15}$

i. $(\sqrt{-8})(\sqrt{-3})$
 $-2\sqrt{6}$

j. $(\sqrt{5})^2 =$

5

k. $(2\sqrt{3})^2 =$

12

l. $(\sqrt{-9})^2 =$

-9

m. $(\sqrt{-40})^2 =$

-40

28.) Match the following quadratics with their roots/solutions/zeros/x-intercepts:

e $x^2 + 5x + 4$

a. $x = 4, 1$

c $x^2 + 5x - 4$

b. $x = -3, -7$

a $x^2 - 5x + 4$

c. $x = \frac{-5 \pm \sqrt{41}}{2}$

d $x^2 - 5x - 4$

d. $x = \frac{5 \pm \sqrt{41}}{2}$

b $(x + 5)^2 = 4$

e. $x = -4, -1$

25.) Clean up the following:

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a $x^2 - 5x + 4$

c. $x = \frac{-5 \pm \sqrt{41}}{2}$

d $x^2 - 5x - 4$

d. $x = \frac{5 \pm \sqrt{41}}{2}$

b $(x + 5)^2 = 4$

e. $x = -4, -1$