

Algebra 1

Unit 8 Practice Test – Solving Quadratics

Name _____

You must show all your work to receive credit!

1. Solve the quadratic equation: $81x^2 = 16$ 1. _____

2. Which of the following are the x-intercepts of: $(x-8)^2 - 36 = 0$ 2. _____

a. $(2,0), (14,0)$

b. $(2,0), (-14,0)$

c. $(0,2), (0,14)$

d. $(-2,0), (-14,0)$

3. Solve by factoring: $x^2 + 2x - 24 = 0$ 3. _____

4. Explain how to solve #3.

5. The height (h), in feet, of a person jumping off a diving platform 5. _____

can be modeled by the equation $h = -12t^2 - 21t + 6$ where t represents the time in seconds the person is in the air. After how many seconds does the person jumping off the platform enter the water?

a. $\frac{1}{4}$ seconds

b. -2 seconds

c. 4 seconds

d. $\frac{1}{12}$ seconds

6. In the answer column, list the correctly solved steps of $4x^2 + 4x - 3 = 0$ by their letter.

A. $x = \frac{1}{2}, x = -\frac{3}{2}$

B. $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

C. $x = \frac{-4+8}{8}, x = \frac{-4-8}{8}$

D. $x = \frac{-4 \pm \sqrt{16+48}}{8}$

E. $x = \frac{-4 \pm \sqrt{64}}{8}$

F. $x = \frac{-4 \pm 8}{8}$

G. $a = 4, b = 4, c = -3$

H. $x = \frac{-(4) \pm \sqrt{(4)^2 - 4(4)(-3)}}{2(4)}$

I. $x = \frac{4}{8}, x = \frac{-12}{8}$

<u>Answer Column</u>

7. Solve using the quadratic formula: $2x^2 - 3 = 7x$

7. _____

8. What is the **sum** of the solutions of $x^2 + 10 = 7x$?

8. _____

9. What is the best method for solving the quadratic?

a. $6x^2 - 5 = -10x$

b. $3x^2 + 2x = 16$

c. $16x^2 + 3 = 39$

a. _____

b. _____

c. _____