## **Practice Challenge - Objective**



Topic : Quadratic Equations Exam Prep 1

Class: X

1. The number of common roots of the equations  $x^2 - 7x + 10 = 0$  and  $x^2 - 10x + 16 = 0$  is

A. 0
B. 1
C. 2
D. 3

2.

Let  $f(x) = ax^2 + bx + c$ . Then, match the following.

a. Sum of roots of $f(x) = 0$	$1\frac{b}{a}$
b. Product of roots of $f(x) = 0$	$2.rac{c}{a}$
c. Roots of $f(x) = 0$ are real and distinct	$3.b^2 - 4ac = 0$
d. Roots of $f(x) = 0$ are real and identical.	$4.b^2 - 4ac > 0$

**A.** a-2, b-1, c-3, d-4

- **B.** a-1, b-2, c-4, d-3
- **C.** a-3, c-4, b-2, d-1
- **D.** a-1, b-2, c-3, d-4

3. Find the value of k for which  $x^2-4x+k=0$  has coincident roots.

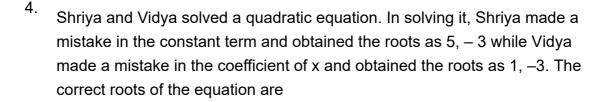
A. 0B. -2

**C.** 4

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A. 1, 3
B. -1, 3
C. -1, -3
D. 1, -1

- 5. What will be the condition for  $(a^2 9)x^2 + bx + c = 0$  to be a quadratic equation?
  - **A.**  $a \neq 0; a, b, c$  are real
  - **B.** a = -3; a, b, care real
  - **C.** a = 3; a, b, c are real
  - **D.**  $a \neq \pm 3; a, b, c$  are real

6. Which of the following is not a quadratic equation?

- **A.**  $(x-2)^2 + 1 = 2x 3$
- **B.**  $(x+2)^3 = x^3 4$
- **C.** x(x+1) + 8 = (x+2)(x-2)
- **D.**  $x(2x+3) = (x^2+1)$





7. Write  $x^2 + 10x + 16 = 0$  in the form  $x^2 + px + qx + 16 = 0$  such that  $p \ge q = 16$ 

- **A.** p = 8, q = 2
- **B.** p = -8, q = -2
- **C.** p = 2, q = 6
- **D.** p = -2, q = -8

8. The altitude of a right triangle is 7 cm less than its base. If the hypotenuse is 13 cm, find the other two sides (in cm).

A. 2,5
B. 5,3
C. 7,2
D. 12,5

9. What are the roots of the quadratic equation  $(x + 2)^2$ -16 = 0?

- **A.** *x* = 2 or -6
- **B.** *x* = -2 or 6
- **C.** *x* = 2 or 6
- **D.** *x* = -2 or -6



- 10. During a practice match, a softball pitcher throws a ball whose height can be modeled by the equation  $h = -16t^2 + 24t + 1$ , where h = height in feet and t = time in seconds. How long does it take for the ball to reach a height of 6 feet?
  - A. 2.2 and 3.8 secs
  - **B.** 5.4 and 6.2 secs
  - **C.** 0.25 and 1.25 secs
  - D. 7 and 5 secs