

MA90 Exercises for section 9.3 The Quadratic Formula**Numeric Response**

1. Solve the equation by using the quadratic formula.

$$x^2 - 14x + 49 = 0$$

$$a = \underline{\hspace{2cm}}, b = \underline{\hspace{2cm}}, c = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

Short Answer

1. Solve the equation by using the quadratic formula.

$$3x^2 + 5x + 2 = 0$$

.

2. Solve the equation by using the quadratic formula.

$$20x^2 - 11x - 4 = 0$$

.

3. Solve the equation by using the quadratic formula.

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

.

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4. Solve the equation by using the quadratic formula.

$$x^2 - 7x = 5$$

.

5. Solve the equation by using the quadratic formula.

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

.

6. Solve the equation by using the quadratic formula.

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

.

7. Solve the equation by using the quadratic formula.

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

.

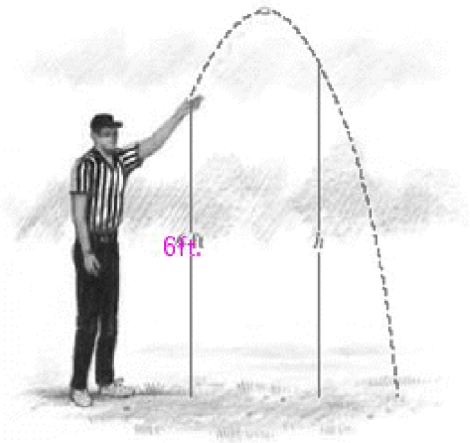
8. Solve the equation $3y^3 - 16y^2 + 7y = 0$ by first factoring out the common factor y and then using the quadratic formula.

9. At the beginning of every football game, the referee flips a coin to see who will kick off. The equation that gives the height (in feet) of the coin tossed in the air is $h = 6 + 36t - 16t^2$.

To find the times at which the coin is 20 feet above the ground we substitute 20 for h in the equation, giving us

$$h = 6 + 36t - 16t^2$$

Solve this equation for t to find the times at which the coin is 20 feet above the ground.



10. Solve the following equation by first multiplying both sides by the LCD and then applying the quadratic formula to the result.

$$\frac{1}{2}x^2 - \frac{1}{2}x - \frac{1}{38} = 0$$

**MA90 Exercises for section 9.3 The Quadratic Formula
Answer Section**

NUMERIC RESPONSE

1. ANS: 7

PTS: 1

SHORT ANSWER

1. ANS:

$$-\frac{2}{3}, -1$$

PTS: 1

2. ANS:

$$-\frac{1}{4}, \frac{4}{5}$$

PTS: 1

3. ANS:

$$\frac{3+\sqrt{33}}{2}, \frac{3-\sqrt{33}}{2}$$

PTS: 1

4. ANS:

$$\frac{7+\sqrt{69}}{2}, \frac{7-\sqrt{69}}{2}$$

PTS: 1

5. ANS:

$$\frac{8}{3}, -1$$

PTS: 1

6. ANS:

$$\frac{-3+\sqrt{11}}{2}, \frac{-3-\sqrt{11}}{2}$$

PTS: 1

7. ANS:

$$\frac{7 + \sqrt{67}}{2}, \frac{7 - \sqrt{67}}{2}$$

PTS: 1

8. ANS:

$$0, \frac{8 + \sqrt{43}}{3}, \frac{8 - \sqrt{43}}{3}$$

PTS: 1

9. ANS:

$$t = \frac{7}{4}, \frac{1}{2}$$

PTS: 1

10. ANS:

$$\frac{19 \pm \sqrt{437}}{38}$$

PTS: 1