Activity 2.1: Solving Quadratic Equations

A

Name: _____ Partner's name: _____ Date: _____

Directions: Solve or answer as directed. Use any method unless one is named.

Work alone, then compare after each problem. If answers differ, find the mistake together.

1

$x^2 - 9x + 20 = 0$

Answer: _____ Match? ☐ Yes ☐ No

2

Solve by completing the square: $x^2 + 6x - 7 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

3

Solve with the quadratic formula: $x^2 - 4x + 1 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

4

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

Answer: _____ Match? ☐ Yes ☐ No

5

Find the discriminant of $2x^2 - 3x + 5$.

Answer: _____ Match? ☐ Yes ☐ No

6

Find the vertex of $y = x^2 - 6x + 11$.

Answer: _____ Match? ☐ Yes ☐ No

7

Find the sum and product of the roots of $x^2 - 5x + 6 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

8

A ball's height is $h = -16t^2 + 48t + 64$ feet. After how many seconds does it hit the ground?

Answer: _____ Match? ☐ Yes ☐ No

UNIT 2 • QUADRATICS & COMPLEX NUMBERS

Activity 2.1: Solving Quadratic Equations

B

Name: _____ Partner's name: _____ Date: _____

Directions: Solve or answer as directed. Use any method unless one is named.

Work alone, then compare after each problem. If answers differ, find the mistake together.

1

$2x^2 - 18x + 40 = 0$

Answer: _____ Match? ☐ Yes ☐ No

2

Solve by completing the square: $3x^2 + 18x - 21 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

3

Solve with the quadratic formula: $2x^2 - 8x + 2 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

4

$3x^2 + 6x + 15 = 0$

Answer: _____ Match? ☐ Yes ☐ No

5

Find the discriminant of $x^2 - 3x + 10$.

Answer: _____ Match? ☐ Yes ☐ No

6

Find the vertex of $y = 2x^2 - 12x + 20$.

Answer: _____ Match? ☐ Yes ☐ No

7

Find the sum and product of the roots of $2x^2 - 10x + 12 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

8

On a small planet, a ball's height is $h = -8t^2 + 24t + 32$ feet. After how many seconds does it hit the ground?

Answer: _____ Match? ☐ Yes ☐ No