

A.REI.B.4: Solving Quadratics 3a

- 1 The larger root of the equation $(x + 4)(x - 3) = 0$ is
 - 1) -4
 - 2) -3
 - 3) 3
 - 4) 4
- 2 The roots of the equation $2x^2 - 8x = 0$ are
 - 1) -2 and 2
 - 2) $0, -2$ and 2
 - 3) 0 and -4
 - 4) 0 and 4
- 3 The roots of the equation $3x^2 - 27x = 0$ are
 - 1) 0 and 9
 - 2) 0 and -9
 - 3) 0 and 3
 - 4) 0 and -3
- 4 What are the roots of the equation $x^2 - 10x + 21 = 0$?
 - 1) 1 and 21
 - 2) -5 and -5
 - 3) 3 and 7
 - 4) -3 and -7
- 5 What are the roots of the equation $x^2 - 7x + 6 = 0$?
 - 1) 1 and 7
 - 2) -1 and 7
 - 3) -1 and -6
 - 4) 1 and 6
- 6 What are the roots of the equation $x^2 - 5x + 6 = 0$?
 - 1) 1 and -6
 - 2) 2 and 3
 - 3) -1 and 6
 - 4) -2 and -3
- 7 The roots of the equation $x^2 - 14x + 48 = 0$ are
 - 1) -6 and -8
 - 2) -6 and 8
 - 3) 6 and -8
 - 4) 6 and 8
- 8 If the roots of a quadratic equation are -2 and 3 , the equation can be written as
 - 1) $(x - 2)(x + 3) = 0$
 - 2) $(x + 2)(x - 3) = 0$
 - 3) $(x + 2)(x + 3) = 0$
 - 4) $(x - 2)(x - 3) = 0$
- 9 If the roots of a quadratic equation are -4 and 2 , the equation is equivalent to
 - 1) $(x + 4)(x - 2) = 0$
 - 2) $(x - 4)(x + 2) = 0$
 - 3) $(x + 4)(x + 2) = 0$
 - 4) $(x - 4)(x - 2) = 0$
- 10 Which equation has roots of -3 and 5 ?
 - 1) $x^2 + 2x - 15 = 0$
 - 2) $x^2 - 2x - 15 = 0$
 - 3) $x^2 + 2x + 15 = 0$
 - 4) $x^2 - 2x + 15 = 0$
- 11 One of the roots of the equation $x^2 + 3x - 18 = 0$ is 3 . What is the other root?
 - 1) 15
 - 2) 6
 - 3) -6
 - 4) -21
- 12 Find the roots of the equation $x^2 = 30 - 13x$ algebraically.
- 13 Find the roots of the equation $x^2 - x = 6$ algebraically.
- 14 Form the quadratic equation whose roots are -5 and $+7$.
- 15 The two roots of an equation are -4 and $+3$. Form the equation.
- 16 Write a quadratic equation in standard form that has roots of -12 and 2 .

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Answer Section

1 ANS: 3

The two roots are -4 and 3 . The larger root is 3 .

REF: 069909a

2 ANS: 4

$$2x^2 - 8x = 0$$

$$2x(x - 4) = 0$$

$$x = 0, 4$$

REF: 011427ia

3 ANS: 1

$$3x^2 - 27x = 0$$

$$3x(x - 9) = 0$$

$$x = 0, 9$$

REF: 011223ia

4 ANS: 3

$$x^2 - 10x + 21 = 0$$

$$(x - 7)(x - 3) = 0$$

$$x = 7 \quad x = 3$$

REF: 010914ia

5 ANS: 4

$$x^2 - 7x + 6 = 0$$

$$(x - 6)(x - 1) = 0$$

$$x = 6 \quad x = 1$$

REF: 060902ia

6 ANS: 2

$$x^2 - 5x + 6 = 0$$

$$(x - 3)(x - 2) = 0$$

$$x = 3 \quad x = 2$$

REF: 081120ia

7 ANS: 4

$$x^2 - 14x + 48 = 0$$

$$(x-6)(x-8) = 0$$

$$x = 6, 8$$

REF: 011320ia

8 ANS: 2

REF: 061326ia

9 ANS: 1

REF: 081420ia

10 ANS: 2

$$x^2 - 2x - 15 = 0$$

$$(x-5)(x+3) = 0$$

$$x = 5 \quad x = -3$$

REF: 011128ia

11 ANS: 3

$$x^2 + 3x - 18 = 0$$

$$(x+6)(x-3) = 0$$

$$x = -6 \quad x = 3$$

REF: 080622a

12 ANS:

$$-15, 2 \quad x^2 + 13x - 30 = 0$$

$$(x+15)(x-2) = 0$$

$$x = -15, 2$$

REF: 081036ia

13 ANS:

$$-2, 3 \quad x^2 - x = 6$$

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

$$(x-3)(x+2) = 0$$

$$x = 3 \text{ or } -2$$

REF: 011034ia

14 ANS:

$$x^2 - 2x - 35 = 0$$

REF: 019012al

15 ANS:

$$x^2 + x - 12 = 0$$

REF: 119207al

16 ANS:
 $(x + 12)(x - 2) = 0$
 $x^2 + 10x - 24 = 0$

REF: 061533ia