

A.REI.B.4: Roots of Quadratics 1a

- 1 Given the equation $x^2 + 3x - 9 = 0$. What is the product of the roots?
 - 1) 9
 - 2) -9
 - 3) 3
 - 4) -3

- 2 What is the product of the roots of the equation $-2x^2 + 3x + 8 = 0$?
 - 1) $\frac{3}{2}$
 - 2) -4
 - 3) $\frac{3}{4}$
 - 4) 4

- 3 What is the product of the roots of the equation $2x^2 - 9x + 6 = 0$?
 - 1) $\frac{9}{2}$
 - 2) $-\frac{9}{2}$
 - 3) 3
 - 4) $\frac{1}{3}$

- 4 What is the product of the roots of the equation $2x^2 - x - 2 = 0$?
 - 1) 1
 - 2) 2
 - 3) -1
 - 4) -2

- 5 What is the product of the roots of $4x^2 - 5x = 3$?
 - 1) $\frac{3}{4}$
 - 2) $\frac{5}{4}$
 - 3) $-\frac{3}{4}$
 - 4) $-\frac{5}{4}$

- 6 What is the product of the roots of the quadratic equation $2x^2 - 7x = 5$?
 - 1) 5
 - 2) $\frac{5}{2}$
 - 3) -5
 - 4) $-\frac{5}{2}$

- 7 What is the sum of the roots of the equation $2x^2 - 3x + 4 = 0$?
 - 1) $\frac{3}{2}$
 - 2) 2
 - 3) $\frac{2}{3}$
 - 4) $\frac{1}{2}$

8 What is the sum of the roots of the equation

$$2x^2 - 13x + 17 = 0?$$

- 1) $-\frac{13}{2}$
- 2) $\frac{13}{2}$
- 3) $-\frac{17}{2}$
- 4) $\frac{17}{2}$

9 What is the sum of the roots of the equation

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

- 1) $-\frac{7}{2}$
- 2) -3
- 3) 3
- 4) $\frac{7}{2}$

10 What is the sum of the roots of the equation

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

- 1) $-\frac{2}{3}$
- 2) $\frac{2}{3}$
- 3) $-\frac{5}{3}$
- 4) $\frac{5}{3}$

11 What is the sum of the roots of the equation

$$2x^2 - 3x + 9 = 0?$$

- 1) $\frac{2}{3}$
- 2) $\frac{9}{2}$
- 3) $\frac{3}{2}$
- 4) $-\frac{3}{2}$

12 What is the sum of the roots of the equation

$$-3x^2 + 6x - 2 = 0?$$

- 1) $\frac{2}{3}$
- 2) 2
- 3) $-\frac{2}{3}$
- 4) -2

13 Find the sum of the roots of the equation

$$x^2 + 7x - 8 = 0.$$

14 What are the sum and product of the roots of the equation $6x^2 - 4x - 12 = 0$?

- 1) sum = $-\frac{2}{3}$; product = -2
- 2) sum = $\frac{2}{3}$; product = -2
- 3) sum = -2 ; product = $\frac{2}{3}$
- 4) sum = -2 ; product = $-\frac{2}{3}$

- 15 What are the sum (S) and product (P) of the roots of the equation $2x^2 - 4x + 1 = 0$?
- 1) $S = \frac{1}{2}, P = 2$
 - 2) $S = 2, P = \frac{1}{2}$
 - 3) $S = -2, P = \frac{1}{2}$
 - 4) $S = -4, P = 1$
- 16 What are the sum (S) and product (P) of the roots of the equation $3x^2 - 7x + 12 = 0$?
- 1) $S = 7, P = 12$
 - 2) $S = \frac{7}{3}, P = -4$
 - 3) $S = \frac{7}{3}, P = 4$
 - 4) $S = -\frac{7}{3}, P = -4$
- 17 Which statement about the equation $3x^2 + 9x - 12 = 0$ is true?
- 1) The product of the roots is -12 .
 - 2) The product of the roots is -4 .
 - 3) The sum of the roots is 3 .
 - 4) The sum of the roots is -9 .
- 18 Find the sum and product of the roots of the equation $5x^2 + 11x - 3 = 0$.
- 19 Determine the sum and the product of the roots of the equation $12x^2 + x - 6 = 0$.
- 20 Determine the sum and the product of the roots of $3x^2 = 11x - 6$.
- 21 Given the equation $3x^2 + 2x + k = 0$, state the sum and product of the roots.
- 22 If the sum of the roots of $x^2 + 3x - 5 = 0$ is added to the product of its roots, the result is
- 1) 15
 - 2) -15
 - 3) -2
 - 4) -8
- 23 If the sum of the roots of the equation $2x^2 - 5x - 3 = 0$ is added to the product of the roots, the result is
- 1) 1
 - 2) $-\frac{1}{4}$
 - 3) -1
 - 4) 4
- 24 In the equation $x^2 - 7x + 2 = 0$, the sum of the roots exceeds the product of the roots by
- 1) 9
 - 2) 5
 - 3) -9
 - 4) -5
- 25 What is the product of the roots of the quadratic equation $2x^2 - x = 4$?
- 1) $\frac{1}{2}$
 - 2) 2
 - 3) -2
 - 4) 4

A.REI.B.4: Roots of Quadratics 1a

Answer Section

1 ANS: 2 REF: 088730siii

2 ANS: 2 REF: 068733siii

3 ANS: 3 REF: 019523siii

4 ANS: 3 REF: 019726siii

5 ANS: 3

$$\frac{c}{a} = \frac{-3}{4}$$

REF: 011517a2

6 ANS: 4

$$2x^2 - 7x - 5 = 0$$

$$\frac{c}{a} = \frac{-5}{2}$$

REF: 061414a2

7 ANS: 1 REF: 019424siii

8 ANS: 2 REF: 010429siii

9 ANS: 2 REF: 069635siii

10 ANS: 2 REF: 080129siii

11 ANS: 3 REF: 089418siii

12 ANS: 2

$$\frac{-b}{a} = \frac{-6}{-3} = 2$$

REF: 011613a2

13 ANS:

$$-7$$

REF: 080210siii

14 ANS: 2

$$\text{sum: } \frac{-b}{a} = \frac{4}{6} = \frac{2}{3}. \quad \text{product: } \frac{c}{a} = \frac{-12}{6} = -2$$

REF: 011209a2

15 ANS: 2 REF: 069833siii

16 ANS: 3 REF: 060133siii

17 ANS: 2

$$P = \frac{c}{a} = \frac{-12}{3} = -4$$

REF: 081506a2

18 ANS:

$$\text{Sum } \frac{-b}{a} = -\frac{11}{5}. \text{ Product } \frac{c}{a} = -\frac{3}{5}$$

REF: 061030a2

19 ANS:

$$\text{Sum } \frac{-b}{a} = -\frac{1}{12}. \text{ Product } \frac{c}{a} = -\frac{1}{2}$$

REF: 061328a2

20 ANS:

$$3x^2 - 11x + 6 = 0. \text{ Sum } \frac{-b}{a} = \frac{11}{3}. \text{ Product } \frac{c}{a} = \frac{6}{3} = 2$$

REF: 011329a2

21 ANS:

$$\text{Sum } \frac{-b}{a} = \frac{-2}{3}. \text{ Product } \frac{c}{a} = \frac{k}{3}$$

REF: 061534a2

22 ANS: 4

$$-\frac{b}{a} = -\frac{3}{1}. \frac{c}{a} = \frac{-5}{1}. -3 + -5 = -8$$

REF: 080217b

23 ANS: 1

REF: 069034siii

24 ANS: 2

REF: 060030siii

25 ANS: 3

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

$$\frac{c}{a} = \frac{-4}{2} = -2$$

REF: 081605a2