Algebra 1 Solving Quadratic Equations: Factoring and the Quadratic Formula

Common Core HSA-REI.B.4 Time: 35 min Total: 21 marks Two-sided: questions continue on the back

GAQUA1

NAME or INITIALS (BLOCK CAPITALS, one letter per box)

ANSWER KEY — not for students, do not scan

ANSWERS — write each final answer in its box. Only these boxes are marked.

1	$x = 3,\ x = -5$	2	$x = 4,\ x = -4$	3	$x = -2,\ x = -4$
4	$x = 0,\ x = 5$	5	$x = 5,\ x = -3$	6	$x = \frac{1}{2},\ x = -3$
7	$x = 5,\ x = -2$	8	$x = 2,\ x = \frac{1}{3}$	9	$x = 2,\ x = -\frac{1}{2}$
10	5				

1 Solve: **1 mark**

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

$x = 3,\ x = -5$

answer in box 1 on the front

2 Solve: **1 mark**

$$x^2 - 16 = 0$$

$x = 4,\ x = -4$

answer in box 2 on the front

3 Solve: **2 marks**

$$x^2 + 6x + 8 = 0$$

$x = -2,\ x = -4$

answer in box 3 on the front

4 Solve: **2 marks**

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

$x = 0,\ x = 5$

answer in box 4 on the front

Questions continue on the back. Only the answer boxes above are marked.

5 Solve: **2 marks**

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

$\boldsymbol{x = 5,\ x = -3}$

answer in box 5 on the front

6 Solve: **2 marks**

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

$\boldsymbol{x = \frac{1}{2},\ x = -3}$

answer in box 6 on the front

7 Solve: **2 marks**

$$x^2 = 3x + 10$$

$\boldsymbol{x = 5,\ x = -2}$

answer in box 7 on the front

8 Solve: **3 marks**

$$3x^2 - 7x + 2 = 0$$

$\boldsymbol{x = 2,\ x = \frac{1}{3}}$

answer in box 8 on the front

9 Solve using the quadratic formula: **3 marks**

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

$\boldsymbol{x = 2,\ x = -\frac{1}{2}}$

answer in box 9 on the front

10 A rectangle's length is 3 cm more than its width. Its area is 40 cm^2. How wide is it, in cm? **3 marks**

5

answer in box 10 on the front