

Math Sheet

Name _____ Score _____ / 10 Teacher _____ Date _____

Solving Quadratics with the Quadratic Formula

Solve each quadratic with the quadratic formula. Give every exact real root.

1. $y^2 + 13y + 40 = 0$

6. $10r^2 + 100r + 90 = 0$

2. $s^2 + s - 6 = 0$

7. $12a^2 + 78a + 120 = 0$

3. $n^2 - 9 = 0$

8. $x^2 + 2x - 35 = 0$

4. $r^2 + 8r + 15 = 0$

9. $8a^2 - 42a - 98 = 0$

5. $18b^2 + 6b - 84 = 0$

10. $27y^2 + 18y + 3 = 0$

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Answer Key

Solve each quadratic with the quadratic formula. Give every exact real root.

1. $y^2 + 13y + 40 = 0$

$$y \in \{-8, -5\}$$

$$y = \frac{-13 \pm \sqrt{9}}{2}$$

6. $10r^2 + 100r + 90 = 0$

$$r \in \{-9, -1\}$$

$$r = \frac{-100 \pm \sqrt{6400}}{20}$$

2. $s^2 + s - 6 = 0$

$$s \in \{-3, 2\}$$

$$s = \frac{-1 \pm \sqrt{25}}{2}$$

7. $12a^2 + 78a + 120 = 0$

$$a \in \{-4, -\frac{5}{2}\}$$

$$a = \frac{-78 \pm \sqrt{324}}{24}$$

3. $n^2 - 9 = 0$

$$n \in \{-3, 3\}$$

$$n = \frac{0 \pm \sqrt{36}}{2}$$

8. $x^2 + 2x - 35 = 0$

$$x \in \{-7, 5\}$$

$$x = \frac{-2 \pm \sqrt{144}}{2}$$

4. $r^2 + 8r + 15 = 0$

$$r \in \{-5, -3\}$$

$$r = \frac{-8 \pm \sqrt{4}}{2}$$

9. $8a^2 - 42a - 98 = 0$

$$a \in \{-\frac{7}{4}, 7\}$$

$$a = \frac{42 \pm \sqrt{4900}}{16}$$

5. $18b^2 + 6b - 84 = 0$

$$b \in \{-\frac{7}{3}, 2\}$$

$$b = \frac{-6 \pm \sqrt{6084}}{36}$$

10. $27y^2 + 18y + 3 = 0$

$$y \in \{-\frac{1}{3}, \frac{1}{3}\}$$

$$y = \frac{-18 \pm \sqrt{0}}{54}$$