

Solving Methods

Date _____ Period _____

Solve each equation.

1) $9|8 + 5n| = -63$

2) $|-n + 4| + 3 = 8$

3) $5 + |5x + 4| = 26$

4) $5|5r - 10| - 9 = 116$

Solve each equation by completing the square.

5) $x^2 - 10x + 22 = 6$

6) $n^2 - 14n - 16 = -5$

Solve each equation with the quadratic formula.

7) $k^2 + 11k = -8$

8) $3n^2 - 4n = 4$

Solve each equation by taking square roots.

9) $3 - 3n^2 = -234$

10) $81x^2 - 9 = 27$

Solve by taking square roots

11) $3(x - 4)^2 - 16 = 5$

12) $(x + 9)^2 + 9 = 45$

Solve each equation. Remember to check for extraneous solutions.

13) $7 = 4 + \sqrt{\frac{n}{7}}$

14) $2 + \sqrt{32 - 2x} = 6$

15) $8 = 5 + \sqrt{n + 6}$

16) $\sqrt{-1 - v} = \sqrt{3v + 11}$

Solving Methods

Solve each equation.

1) $9|8 + 5n| = -63$

No solution.

2) $|-n + 4| + 3 = 8$

 $\{-1, 9\}$

3) $5 + |5x + 4| = 26$ $\left\{\frac{17}{5}, -5\right\}$

4) $5|5r - 10| - 9 = 116$

 $\{7, -3\}$ **Solve each equation by completing the square.**

5) $x^2 - 10x + 22 = 6$

 $\{8, 2\}$

6) $n^2 - 14n - 16 = -5$

 $\{14.746, -0.746\}$ **Solve each equation with the quadratic formula.**

7) $k^2 + 11k = -8$

 $\left\{\frac{-11 + \sqrt{89}}{2}, \frac{-11 - \sqrt{89}}{2}\right\}$

8) $3n^2 - 4n = 4$

 $\left\{2, -\frac{2}{3}\right\}$ **Solve each equation by taking square roots.**

9) $3 - 3n^2 = -234$

 $\{\sqrt{79}, -\sqrt{79}\}$

10) $81x^2 - 9 = 27$ $\left\{\frac{2}{3}, -\frac{2}{3}\right\}$

Solve by taking square roots

11) $3(x - 4)^2 - 16 = 5$

 $\pm\sqrt{7} - 4$ or $-1.35, -6.65$

12) $(x + 9)^2 + 9 = 45$

 $-3, -15$ **Solve each equation. Remember to check for extraneous solutions.**

13) $7 = 4 + \sqrt{\frac{n}{7}}$

 $\{63\}$

14) $2 + \sqrt{32 - 2x} = 6$

 $\{8\}$

15) $8 = 5 + \sqrt{n + 6}$

 $\{3\}$

16) $\sqrt{-1 - v} = \sqrt{3v + 11}$

 $\{-3\}$