

Solving Quadratic Equations Review

Date _____ Period _____

Solve each equation by completing the square.

1) $a^2 - 2a - 13 = 2$

2) $r^2 + 14r + 45 = -3$

3) $b^2 + 7b - 74 = 10$

4) $p^2 - 19p + 104 = 6$

5) $3x^2 - 14x + 87 = 10$

6) $4n^2 - 17n + 31 = -4$

Solve each equation by factoring.

7) $v^2 = -40 - 13v$

8) $a^2 + 15 = -8a$

9) $2x^2 = 11x - 12$

10) $5n^2 = 7n - 2$

11) $7v^2 = -41v + 56$

12) $45x^2 + 100 = -135x$

Solve each equation by taking square roots.

13) $10p^2 - 1 = -87$

14) $49v^2 + 8 = 57$

15) $-1 - 3r^2 = -21$

16) $8x^2 + 7 = 591$

Solve each equation with the quadratic formula.

17) $6a^2 = -11a - 5$

18) $-9x^2 - 7 = 7x$

19) $9b^2 - b = -3$

20) $12p^2 + 9 = p$

21) $-2r^2 = 5r + 2$

22) $2b^2 + 1 = 0$

Solving Quadratic Equations Review

Solve each equation by completing the square.

1) $a^2 - 2a - 13 = 2$

$\{5, -3\}$

2) $r^2 + 14r + 45 = -3$

$\{-6, -8\}$

3) $b^2 + 7b - 74 = 10$

$\left\{\frac{-7 + \sqrt{385}}{2}, \frac{-7 - \sqrt{385}}{2}\right\}$

4) $p^2 - 19p + 104 = 6$

$\left\{\frac{19 + i\sqrt{31}}{2}, \frac{19 - i\sqrt{31}}{2}\right\}$

5) $3x^2 - 14x + 87 = 10$

$\left\{\frac{7 + i\sqrt{182}}{3}, \frac{7 - i\sqrt{182}}{3}\right\}$

6) $4n^2 - 17n + 31 = -4$

$\left\{\frac{17 + i\sqrt{271}}{8}, \frac{17 - i\sqrt{271}}{8}\right\}$

Solve each equation by factoring.

7) $v^2 = -40 - 13v$

$\{-5, -8\}$

8) $a^2 + 15 = -8a$

$\{-5, -3\}$

9) $2x^2 = 11x - 12$

$\left\{\frac{3}{2}, 4\right\}$

10) $5n^2 = 7n - 2$

$\left\{\frac{2}{5}, 1\right\}$

11) $7v^2 = -41v + 56$

$\left\{\frac{8}{7}, -7\right\}$

12) $45x^2 + 100 = -135x$

$\left\{-\frac{5}{3}, -\frac{4}{3}\right\}$

Solve each equation by taking square roots.

13) $10p^2 - 1 = -87$

$\left\{\frac{i\sqrt{215}}{5}, -\frac{i\sqrt{215}}{5}\right\}$

14) $49v^2 + 8 = 57$

$\{1, -1\}$

15) $-1 - 3r^2 = -21$

$\left\{\frac{2\sqrt{15}}{3}, -\frac{2\sqrt{15}}{3}\right\}$

16) $8x^2 + 7 = 591$

$\{\sqrt{73}, -\sqrt{73}\}$

Solve each equation with the quadratic formula.

17) $6a^2 = -11a - 5$

$\left\{-\frac{5}{6}, -1\right\}$

18) $-9x^2 - 7 = 7x$

$\left\{\frac{-7 - i\sqrt{203}}{18}, \frac{-7 + i\sqrt{203}}{18}\right\}$

19) $9b^2 - b = -3$

$\left\{\frac{1 + i\sqrt{107}}{18}, \frac{1 - i\sqrt{107}}{18}\right\}$

20) $12p^2 + 9 = p$

$\left\{\frac{1 + i\sqrt{431}}{24}, \frac{1 - i\sqrt{431}}{24}\right\}$

21) $-2r^2 = 5r + 2$

$\left\{-2, -\frac{1}{2}\right\}$

22) $2b^2 + 1 = 0$

$\left\{\frac{i\sqrt{2}}{2}, -\frac{i\sqrt{2}}{2}\right\}$