

Solving Quadratics: factoring and square root

Date _____ Block _____

Solve each equation by factoring.

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

2) $a^2 - 7a = -6$

3) $a^2 - 2a = 15$

4) $x^2 + 5 = -6x$

5) $m^2 = -10m - 24$

6) $n^2 - 26 = -8 + 3n$

7) $4x^2 - 64 = -24x$

8) $9r^2 = -15r$

9) $12x^2 - 20x = 48$

10) $7x^2 = -6 + 23x$

Solve each equation by taking square roots.

11) $3v^2 + 9 = 117$

12) $3n^2 - 8 = 181$

13) $2k^2 + 8 = 10$

14) $8m^2 - 6 = 642$

15) $3r^2 - 4 = 8$

16) $6x^2 + 5 = 299$

17) $6n^2 + 3 = 27$

18) $3n^2 + 9 = 303$

19) $6p^2 - 8 = 190$

20) $4 - 6x^2 = -32$

Answers to Solving Quadratics: factoring and square root

1) $\{3, 5\}$

5) $\{-6, -4\}$

9) $\left\{-\frac{4}{3}, 3\right\}$

13) $\{1, -1\}$

17) $\{2, -2\}$

2) $\{1, 6\}$

6) $\{-3, 6\}$

10) $\left\{\frac{2}{7}, 3\right\}$

14) $\{9, -9\}$

18) $\{7\sqrt{2}, -7\sqrt{2}\}$

3) $\{-3, 5\}$

7) $\{-8, 2\}$

11) $\{6, -6\}$

15) $\{2, -2\}$

19) $\{\sqrt{33}, -\sqrt{33}\}$

4) $\{-1, -5\}$

8) $\left\{-\frac{5}{3}, 0\right\}$

12) $\{3\sqrt{7}, -3\sqrt{7}\}$

16) $\{7, -7\}$

20) $\{\sqrt{6}, -\sqrt{6}\}$