

Solving Equations by Completing the Square

Solve each equation by completing the square.

1) $n^2 + 5n + 2 = 0$

2) $a^2 - 15a + 14 = 0$

3) $n^2 - 15n + 54 = 0$

4) $6x^2 - 9x - 60 = 0$

5) $a^2 + 11a - 26 = 0$

6) $8n^2 + 14n - 39 = 0$

7) $3a^2 + 4a - 35 = 0$

8) $5x^2 - 4x - 55 = 0$

9) $6r^2 + 7r - 46 = 0$

10) $2n^2 + 10n + 5 = 0$

11) $2v^2 - 5v - 7 = 0$

12) $4x^2 - 10x + 4 = 0$

13) $b^2 - 9b + 18 = 0$

14) $x^2 - 3x - 28 = 0$

15) $p^2 - 11p + 10 = 0$

16) $2n^2 + 13n - 4 = 0$

17) $4x^2 + 14x - 2 = 0$

18) $4x^2 - 9x + 5 = 0$

19) $k^2 - 7k + 6 = 0$

20) $x^2 + 9x - 26 = 0$

Answers to Solving Equations by Completing the Square (ID: 1)

- 1) $\left\{ \frac{-5 + \sqrt{17}}{2}, \frac{-5 - \sqrt{17}}{2} \right\}$ 2) $\{14, 1\}$ 3) $\{9, 6\}$
 4) $\left\{ 4, -2\frac{1}{2} \right\}$ 5) $\{2, -13\}$ 6) $\left\{ 1\frac{1}{2}, -3\frac{1}{4} \right\}$
 7) $\left\{ \frac{-2 + \sqrt{109}}{3}, \frac{-2 - \sqrt{109}}{3} \right\}$ 8) $\left\{ \frac{2 + 3\sqrt{31}}{5}, \frac{2 - 3\sqrt{31}}{5} \right\}$ 9) $\left\{ \frac{-7 + \sqrt{1153}}{12}, \frac{-7 - \sqrt{1153}}{12} \right\}$
 10) $\left\{ \frac{-5 + \sqrt{15}}{2}, \frac{-5 - \sqrt{15}}{2} \right\}$ 11) $\left\{ 3\frac{1}{2}, -1 \right\}$ 12) $\left\{ 2, \frac{1}{2} \right\}$
 13) $\{6, 3\}$ 14) $\{7, -4\}$ 15) $\{10, 1\}$
 16) $\left\{ \frac{-13 + \sqrt{201}}{4}, \frac{-13 - \sqrt{201}}{4} \right\}$ 17) $\left\{ \frac{-7 + \sqrt{57}}{4}, \frac{-7 - \sqrt{57}}{4} \right\}$ 18) $\left\{ 1\frac{1}{4}, 1 \right\}$
 19) $\{6, 1\}$ 20) $\left\{ \frac{-9 + \sqrt{185}}{2}, \frac{-9 - \sqrt{185}}{2} \right\}$