

## Solving Equations by Completing the Square

Solve each equation by completing the square.

1)  $a^2 + 2a - 3 = 0$

2)  $a^2 - 2a - 8 = 0$

3)  $p^2 + 16p - 22 = 0$

4)  $k^2 + 8k + 12 = 0$

5)  $r^2 + 2r - 33 = 0$

6)  $a^2 - 2a - 48 = 0$

7)  $m^2 - 12m + 26 = 0$

8)  $x^2 + 12x + 20 = 0$

9)  $k^2 - 8k - 48 = 0$

10)  $p^2 + 2p - 63 = 0$

11)  $m^2 + 2m - 48 = -6$

12)  $p^2 - 8p + 21 = 6$

$$13) m^2 + 10m + 14 = -7$$

$$14) v^2 - 2v = 3$$

$$15) 5v^2 - 21 = 10v$$

$$16) 4v^2 + 16v = 65$$

$$17) 7b^2 - 14b - 56 = 0$$

$$18) 2n^2 + 12n + 10 = 0$$

$$19) n^2 + 13n + 22 = 7$$

$$20) 5n^2 + 19n - 68 = -2$$

$$21) r^2 - 9r - 38 = -9$$

$$22) 3x^2 + 20x + 36 = 4$$

$$23) x^2 + 7x - 45 = 7$$

$$24) n^2 + 19n + 66 = 6$$

## Solving Equations by Completing the Square

Solve each equation by completing the square.

1)  $a^2 + 2a - 3 = 0$

 $\{1, -3\}$ 

2)  $a^2 - 2a - 8 = 0$

 $\{4, -2\}$ 

3)  $p^2 + 16p - 22 = 0$

 $\{1.273, -17.273\}$ 

4)  $k^2 + 8k + 12 = 0$

 $\{-2, -6\}$ 

5)  $r^2 + 2r - 33 = 0$

 $\{4.83, -6.83\}$ 

6)  $a^2 - 2a - 48 = 0$

 $\{8, -6\}$ 

7)  $m^2 - 12m + 26 = 0$

 $\{9.162, 2.837\}$ 

8)  $x^2 + 12x + 20 = 0$

 $\{-2, -10\}$ 

9)  $k^2 - 8k - 48 = 0$

 $\{12, -4\}$ 

10)  $p^2 + 2p - 63 = 0$

 $\{7, -9\}$ 

11)  $m^2 + 2m - 48 = -6$

 $\{5.557, -7.557\}$ 

12)  $p^2 - 8p + 21 = 6$

 $\{5, 3\}$

$$13) m^2 + 10m + 14 = -7$$

$$\{-3, -7\}$$

$$14) v^2 - 2v = 3$$

$$\{3, -1\}$$

$$15) 5v^2 - 21 = 10v$$

$$\{3.28, -1.28\}$$

$$16) 4v^2 + 16v = 65$$

$$\{2.5, -6.5\}$$

$$17) 7b^2 - 14b - 56 = 0$$

$$\{4, -2\}$$

$$18) 2n^2 + 12n + 10 = 0$$

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

$$19) n^2 + 13n + 22 = 7$$

$$\{-1.279, -11.72\}$$

$$20) 5n^2 + 19n - 68 = -2$$

$$\{2.2, -6\}$$

$$21) r^2 - 9r - 38 = -9$$

$$\{11.517, -2.517\}$$

$$22) 3x^2 + 20x + 36 = 4$$

$$\{-2.666, -4\}$$

$$23) x^2 + 7x - 45 = 7$$

$$\{4.515, -11.515\}$$

$$24) n^2 + 19n + 66 = 6$$

$$\{-4, -15\}$$