

Practice 5

Solving Equations by Factoring
Square Root Property and Completing the Square

Solve the equation by factoring.

- 1) $x^2 = x + 42$ 1) _____
 A) {1, 42} B) {-6, 7} C) {6, 7} D) {-6, -7}
- 2) $x^2 + 2x - 24 = 0$ 2) _____
 A) {-6, 4} B) {6, 4} C) {6, -4} D) {-6, 1}
- 3) $7 - 7x = (4x + 9)(x - 1)$ 3) _____
 A) $\left\{1, -\frac{9}{4}\right\}$ B) {-4, 1} C) {-1, 4} D) {1}

Solve the equation by the square root property.

- 4) $3x^2 = 75$ 4) _____
 A) $\{-5\sqrt{3}, 5\sqrt{3}\}$ B) {0} C) {-5, 5} D) {-3, 3}
- 5) $3x^2 = 33$ 5) _____
 A) {16.5} B) $\{-\sqrt{11}, \sqrt{11}\}$ C) {-11, 11} D) {12}
- 6) $(2x + 4)^2 = 36$ 6) _____
 A) {-20, 20} B) {1, 5} C) {0, 1} D) {-5, 1}
- 7) $(5x + 2)^2 = 5$ 7) _____
 A) $\left\{\frac{-2 - \sqrt{5}}{5}, \frac{-2 + \sqrt{5}}{5}\right\}$ B) $\left\{-\frac{7}{5}, \frac{3}{5}\right\}$ C) $\left\{\frac{2 - \sqrt{5}}{5}, \frac{2 + \sqrt{5}}{5}\right\}$

Determine the constant that should be added to the binomial so that it becomes a perfect square trinomial. Then write and factor the trinomial.

- 8) $x^2 + 16x$ 8) _____
 A) 256; $x^2 + 16x + 256 = (x + 16)^2$ B) 16; $x^2 + 16x + 16 = (x + 256)^2$
 C) 64; $x^2 + 16x + 64 = (x + 8)^2$ D) 8; $x^2 + 16x + 8 = (x + 64)^2$

Solve the equation by completing the square.

- 9) $x^2 + 4x = 9$ 9) _____
 A) $\{-1 - \sqrt{6.5}, -1 + \sqrt{6.5}\}$ B) $\{2 + \sqrt{6.5}\}$
 C) $\{-2 - \sqrt{6.5}, -2 + \sqrt{6.5}\}$ D) $\{-2 - 1\sqrt{6.5}, -2 + 1\sqrt{6.5}\}$
- 10) $x^2 + 4x + 3 = 0$ 10) _____
 A) {-3, 6} B) {1, 3} C) $\{-\sqrt{3}, \sqrt{3}\}$ D) {-3, -1}

11) $x^2 + 14x + 38 = 0$

A) $\{-14 + \sqrt{38}\}$

C) $\{-7 - \sqrt{11}, -7 + \sqrt{11}\}$

B) $\{7 + \sqrt{11}\}$

D) $\{7 - \sqrt{38}, 7 + \sqrt{38}\}$

11) _____

12) $x^2 + 8x - 7 = 0$

A) $\{-4 - 1\sqrt{23}, -4 + 1\sqrt{23}\}$

C) $\{4 + \sqrt{23}\}$

B) $\{-4 - \sqrt{23}, -4 + \sqrt{23}\}$

D) $\{-1 - \sqrt{23}, -1 + \sqrt{23}\}$

12) _____

Answer Key

Testname: 5_SOLVING EQUATIONS BY FACTORING

- 1) B
- 2) A
- 3) B
- 4) C
- 5) B
- 6) D
- 7) A
- 8) C
- 9) C
- 10) D
- 11) C
- 12) B