

Completing the Square

1. $x^2 + 10x - 119 = 0$

$$x^2 + 10x = \underline{\hspace{2cm}}$$

$$x^2 + 10x + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$(x + \underline{\hspace{2cm}})^2 = \underline{\hspace{2cm}}$$

$$x + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \quad \text{or} \quad x + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}} \quad \text{or} \quad \underline{\hspace{2cm}}$$

2. $x^2 - 9x - 252 = 0$

$$x^2 - 9x = \underline{\hspace{2cm}}$$

$$x^2 - 9x + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$(x + \underline{\hspace{2cm}})^2 = \underline{\hspace{2cm}}$$

$$x + \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \quad \text{or} \quad x + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}} \quad \text{or} \quad \underline{\hspace{2cm}}$$

3. $2x^2 - 17x - 84 = 0$

$$x^2 - \underline{\hspace{2cm}}x - \underline{\hspace{2cm}} = 0$$

$$x^2 - \underline{\hspace{2cm}}x = \underline{\hspace{2cm}}$$

$$x^2 - \underline{\hspace{2cm}}x + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$(x - \underline{\hspace{2cm}})^2 = \underline{\hspace{2cm}}$$

$$x - \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \quad \text{or} \quad x - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}} \quad \text{or} \quad \underline{\hspace{2cm}}$$

4. $x^2 - 6x + 7 = 0$

$$x^2 - \underline{\quad\quad} x = \underline{\quad\quad\quad}$$

$$x^2 - \underline{\quad\quad} x + \underline{\quad\quad\quad} = \underline{\quad\quad\quad}$$

$$(x - \underline{\quad\quad})^2 = \underline{\quad\quad\quad}$$

$$x - \underline{\quad\quad} = \underline{\quad\quad} \quad \text{or} \quad x - \underline{\quad\quad} = \underline{\quad\quad}$$

$$x = \underline{\quad\quad} \pm \underline{\quad\quad}$$

$$x \approx \underline{\quad\quad} \quad \text{or} \quad \underline{\quad\quad}$$

5. $x^2 + 8x + 9 = 0$

$$x^2 - \underline{\quad\quad} x = \underline{\quad\quad\quad}$$

$$x^2 - \underline{\quad\quad} x + \underline{\quad\quad\quad} = \underline{\quad\quad\quad}$$

$$(x - \underline{\quad\quad})^2 = \underline{\quad\quad\quad}$$

$$x - \underline{\quad\quad} = \underline{\quad\quad} \quad \text{or} \quad x - \underline{\quad\quad} = \underline{\quad\quad}$$

$$x = \underline{\quad\quad} \pm \underline{\quad\quad}$$

$$x \approx \underline{\quad\quad} \quad \text{or} \quad \underline{\quad\quad}$$

Solve the following quadratic equations:

1. $x^2 + 2x - 224 = 0$

2. $x^2 - 22x + 57 = 0$

3. $x^2 - 2x - 10 = 0$

4. $x^2 - 18x + 71 = 0$

5. $x^2 - 5x - 84 = 0$

6. $x^2 + 23x - 78 = 0$

7. $x^2 - 22x + 96 = 0$

8. $x^2 - 12x + 23 = 0$