

Completing the Square

Date _____ Period _____

Solve each equation by completing the square.

1) $x^2 - 4x - 55 = 5$

2) $k^2 - 16k - 8 = -7$

3) $k^2 + 18k + 52 = -4$

4) $b^2 - 14b + 34 = -6$

5) $4n^2 - 8n - 38 = 4$

6) $6n^2 + 12n - 97 = -6$

7) $6k^2 - 12k + 5 = 6$

8) $6x^2 + 12x - 86 = 4$

9) $n^2 - 28 = -12n$

10) $4v^2 + 10v = 24 + 3v^2$

Completing the Square

Date _____ Period _____

Solve each equation by completing the square.

1) $x^2 - 4x - 55 = 5$

$\{10, -6\}$

2) $k^2 - 16k - 8 = -7$

$\{8 + \sqrt{65}, 8 - \sqrt{65}\}$

3) $k^2 + 18k + 52 = -4$

$\{-4, -14\}$

4) $b^2 - 14b + 34 = -6$

$\{10, 4\}$

5) $4n^2 - 8n - 38 = 4$

$\left\{ \frac{2 + \sqrt{46}}{2}, \frac{2 - \sqrt{46}}{2} \right\}$

6) $6n^2 + 12n - 97 = -6$

$\left\{ \frac{-6 + \sqrt{582}}{6}, \frac{-6 - \sqrt{582}}{6} \right\}$

7) $6k^2 - 12k + 5 = 6$

$\left\{ \frac{6 + \sqrt{42}}{6}, \frac{6 - \sqrt{42}}{6} \right\}$

8) $6x^2 + 12x - 86 = 4$

$\{3, -5\}$

9) $n^2 - 28 = -12n$

$\{2, -14\}$

10) $4v^2 + 10v = 24 + 3v^2$

$\{2, -12\}$