Algebra 2 Name_____

Completing the Square

Period____

Find the value that completes the square and then rewrite as a perfect square.

1) $x^2 - 6x + \_\_$

2) $z^2 - 30z + \_\_$

3) $x^2 + 36x + \_\_$

4) $x^2 + 16x + \_\_$

5) $z^2 + 32z + \_\_$

6) $a^2 + 28a + \_\_$

7) $x^2 + 8x + \_\_$

8) $y^2 - 36y + \_\_$

9) $m^2 - 32m + \_\_$

10) $y^2 - 8y + \_\_$

Solve each equation by completing the square.

11) $n^2 + 4n - 12 = 0$

12) $n^2 + 18n - 63 = 0$

13) $x^2 - 2x - 99 = 0$

14) $k^2 - 4k - 47 = 0$

15) $m^2 + 16m - 77 = 0$

16) $k^2 + 10k - 39 = 0$

17) $x^2 - 14x - 95 = 0$

18) $v^2 - 18v - 40 = 0$

19) $n^2 - 16n - 25 = -8$

20) $a^2 - 2a - 66 = 4$

21) $a^2 - 14a + 37 = 9$

22) $v^2 = 15 + 14v$

23) $n^2 - 84 = -10n$

24) $x^2 + 14x = -40$