

Circles – Completing the Square

G.GPE.A.1

Hw Section 11.4

Name _____

Complete the square for each equation.

1) $p^2 + 14p - 38 = 0$

$$(p^2 + 14p + 49) = 38 + 49$$

$$(p + 7)^2 = 87$$

2) $v^2 + 6v - 59 = 0$

$$(v^2 + 6v + 9) = 59 + 9$$

$$(v + 3)^2 = 68$$

3) $a^2 + 14a - 51 = 0$

$$(a^2 + 14a + 49) = 51 + 49$$

$$(a + 7)^2 = 100$$

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

$$(x^2 - 12x + 36) = -11 + 36$$

$$(x - 6)^2 = 25$$

5) $x^2 + 6x + 8 = 0$

$$(x^2 + 6x + 9) = -8 + 9$$

$$(x + 3)^2 = 1$$

6) $n^2 - 2n - 3 = 0$

$$(n^2 - 2n + 1) = 3 + 1$$

$$(n - 1)^2 = 4$$

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7) $x^2 + 14x - 15 = 0$

$$(x^2 + 14x + 49) = 15 + 49$$

$$(x + 7)^2 = 64$$

8) $k^2 - 12k + 23 = 0$

$$(k^2 - 12k + 36) = -23 + 36$$

$$(k - 6)^2 = 13$$

9) $r^2 - 4r - 91 = 7$

$$(r^2 - 4r + 4) = 98 + 4$$

$$(r - 2)^2 = 102$$

10) $x^2 - 10x + 26 = 8$

$$(x^2 - 10x + 25) = -18 + 25$$

$$(x - 5)^2 = 7$$

11) $k^2 - 4k + 1 = -5$

$$(k^2 - 4k + 4) = -6 + 4$$

$$(k - 2)^2 = -2$$

12) $b^2 + 2b = -20$

$$(b^2 + 2b + 1) = -20 + 1$$

$$(b + 1)^2 = -19$$