Name_____

4.3 Solve by Completing the Square

Date_____ Period_____

Find the value of c that completes the square.

1) $x^2 + 16x + c$

2) $x^2 - 28x + c$

3) $p^2 + 9p + c$

4) $m^2 - 5m + c$

5) What is the purpose of completing the square?

6) In the process of completing the square, why do we need to add our filled-in value to both sides of the equation?

Solve each equation by completing the square.

7) $n^2 + 16n - 84 = -4$

8) $r^2 - 10r + 18 = 9$

skip

9) $p^2 + 12p + 90 = 10$

10) $k^2 + 20k + 93 = -3$

11) $m^2 + 18m + 8 = -6$

12) $b^2 - 6b + 3 = -5$

13) $x^2 - 8x - 69 = -4$

14) $v^2 + 10v + 104 = 10$

15) $n^2 + 20n - 59 = 3$

16) $a^2 + 18a + 94 = -2$

17) In which step of solving can you tell if you'll have rational, irrational, or imaginary solutions?

Solve each equation by factoring.

18) $n^2 + 12 = -7n$

19) $m^2 + 40 = 13m$

20) $24b^2 + 208b = -384$

21) $6r^2 = -80 + 46r$