NAME _____ DATE _____ PERIOD _____

9-5 Skills Practice

Solving Quadratic Equations by Completing the Square

Find the value of *c* that makes each trinomial a perfect square.

1. $x^2 + 6x + c$ **9**

2. $x^2 + 4x + c$ **4**

3. $x^2 - 14x + c$ **49**

4. $x^2 - 2x + c$ **1**

5. $x^2 - 18x + c$ **81**

6. $x^2 + 20x + c$ **100**

7. $x^2 + 5x + c$ **6.25**

8. $x^2 - 70x + c$ **1225**

9. $x^2 - 11x + c$ **30.25**

10. $x^2 + 9x + c$ **20.25**

Solve each equation by completing the square. Round to the nearest tenth if necessary.

11. $x^2 + 4x - 12 = 0$ **–6, 2**

12. $x^2 - 8x + 15 = 0$ **3, 5**

13. $x^2 + 6x = 7$ **–7, 1**

14. $x^2 - 2x = 15$ **–3, 5**

15. $x^2 - 14x + 30 = 6$ **2, 12**

16. $x^2 + 12x + 21 = 10$ **–11, –1**

17. $x^2 - 4x + 1 = 0$ **0.3, 3.7**

18. $x^2 - 6x + 4 = 0$ **0.8, 5.2**

19. $x^2 - 8x + 10 = 0$ **1.6, 6.4**

20. $x^2 - 2x = 5$ **–1.4, 3.4**

Write the vertex form of each parabola.

21. $y = x^2 + 8x + 7$ **$y = (x + 4)^2 - 9$**

22. $y = x^2 - 12x + 16$ **$y = (x - 6)^2 - 20$**