Name _____ Class _____ Date _____

Practice: Section 2-7 WS (ODDS) /27 *Form G*

Factoring Special Cases

Factor each expression.

1. $h^2 + 10h + 25$

2. $v^2 - 14v + 49$

3. $d^2 - 22d + 121$

4. $m^2 + 4m + 4$

5. $q^2 + 6q + 9$

6. $p^2 - 24p + 144$

7. $36x^2 + 60x + 25$

8. $64x^2 + 48x + 9$

9. $49n^2 + 14n + 1$

10. $16s^2 - 72s + 81$

11. $25r^2 - 80r + 64$

12. $9g^2 - 24g + 16$

13. $81w^2 + 144w + 64$

14. $16e^2 - 88e + 121$

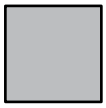
15. $25j^2 + 100j + 100$

16. $144f^2 - 24f + 1$

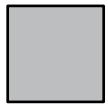
17. $4a^2 - 36a + 81$

18. $49d^2 - 84d + 36$

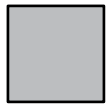
The given expression represents the area. Find the side length of the square.

19. 

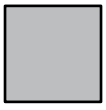
$64x^2 + 80x + 25$

20. 

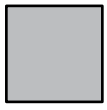
$9y^2 - 24y + 16$

21. 

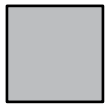
$4t^2 + 36t + 81$

22. 

$36n^2 + 84n + 49$

23. 

$100w^2 + 20w + 1$

24. 

$16s^2 + 104s + 169$

25. Error Analysis Describe and correct the error made in factoring the expression at the right.

$175x^2 - 28 = 7(25x^2 - 4)$

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

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

Name _____ Class _____ Date _____

Practice (continued) *Form G*

Factoring Special Cases

Factor each expression.

26. $m^2 - 49$ **27.** $c^2 - 100$ **28.** $p^2 - 16$

29. $4a^2 - 25$ **30.** $64n^2 - 1$ **31.** $25x^2 - 144$

32. $50g^2 - 8$ **33.** $8d^2 - 8$ **34.** $27x^2 - 48$

35. $24e^2 - 54$ **36.** $245k^2 - 20$ **37.** $112h^2 - 63$

38. $48x^2 + 72x + 27$ **39.** $8b^2 + 80b + 200$ **40.** $48w^2 + 48w + 12$

41. $45s^2 - 210s + 245$ **42.** $45t^2 - 72t + 24$ **43.** $100z^2 - 120z + 36$

44. Writing Explain how to recognize a perfect-square trinomial.

45. a. Open-Ended Write an expression that shows the factored form of a difference of two squares.

b. Explain how you know that your expression is a difference of two squares.

Factor each expression.

46. $36s^8 - 60s^4 + 25$ **47.** $c^{10} - 30c^5d^2 + 225d^4$ **48.** $25n^6 + 40n^3 + 16$

Mental Math For Exercises 49–51, find a pair of factors for each number by using the difference of two squares.

49. 24 **50.** 28 **51.** 72

52. Reasoning Explain how reversing the rules for multiplying squares of binomials can help you factor a perfect-square trinomial.

53. Writing The area of a square parking lot is $49p^4 - 84p^2 + 36$. Explain how you would find the length of the parking lot.