Name _____ Class _____ Date _____

Practice: Section 2-6 WS (ODDS) /22 *Form G*

Factoring $ax^2 + bx + c$

Factor each expression.

1. $2w^2 + 13w + 15$

2. $3d^2 + 20d + 12$

3. $4n^2 + 62n - 32$

4. $3p^2 - 7p - 40$

5. $6r^2 - 10r - 24$

6. $5z^2 - 17z + 14$

7. $14k^2 - 67k + 63$

8. $2m^2 - m - 15$

9. $3x^2 + 9x - 84$

10. $4y^2 + 26y + 30$

11. $5t^2 - 24t - 5$

12. $7c^2 - 2c - 9$

13. $8k^2 - 42k + 27$

14. $6g^2 - 2g - 20$

15. $2c^2 - 23c + 11$

16. The area of a rectangular computer screen is $4x^2 + 20x + 16$. The width of the screen is $2x + 8$. What is the length of the screen?

17. The area of a rectangular granite countertop is $12x^2 + 10x - 12$. The width of the countertop is $2x + 3$. What is the length of the countertop?

18. The area of a rectangular book cover is $4x^2 - 6x - 40$. The width of the book cover is $2x - 8$. What is the length of the book cover?

19. The area of a rectangular parking lot is $21x^2 - 44x + 15$. The width of the parking lot is $3x - 5$. What is the length of the parking lot?

Factor each expression completely.

20. $6x^2 - 10x - 4$

21. $6d^2 + 21d + 15$

22. $8n^2 + 68n + 84$

23. $20p^2 - 115p - 30$

24. $15r^2 + 141r - 90$

25. $12z^2 - 14z + 4$

26. $20k^2 + 110k + 120$

27. $9m^2 - 66m + 21$

28. $40x^2 - 136x - 96$

29. $42y^2 + 28y - 14$

30. $8t^2 - 16t - 90$

31. $24c^2 + 96c + 90$

Name _____ Class _____ Date _____

Practice (continued) *Form G*

Factoring $ax^2 + bx + c$

Open-Ended **Find two different values that complete each expression so that the trinomial can be factored into the product of two binomials. Factor your trinomials.**

32. $4x^2 + \square x + 12$ **33.** $6t^2 - \square t - 4$ **34.** $9m^2 - \square m + 8$

***** OMIT #32-37 *****

35. $8n^2 + \square n - 10$ **36.** $12v^2 - \square v + 15$ **37.** $5w^2 - \square w - 24$

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

$$(6x^2 + 3x - 9) = 3(2x^2 + x - 3)$$
$$= 3(2x^2 - 3x + 2x - 3)$$
$$= 3(2x^2 - 3x + (2x - 3)$$
$$= 3[\, x\,(2x - 3) + 1\,(2x - 3)\,]$$
$$= 3(x + 1)\,(2x - 3)$$

39. A parallelogram has an area of $4x^2 + 7x - 15$. The base of the parallelogram is $x + 3$. What is the height of the parallelogram?

a. Write the formula for the area of a parallelogram.

b. Writing Explain how factoring the trinomial helps you solve the problem.

40. A rectangular window pane has an area of $15x^2 - 19x + 6$. The width of the window pane is $3x - 2$. What is the length of the window pane?

Factor each expression completely.

41. $28y^2 + 43y - 48$ **42.** $16z^2 - 54z + 35$ **43.** $27n^2 - 54n + 15$

44. $36p^2 + 63p + 20$ **45.** $28r^2 - 20r - 33$ **46.** $30z^2 - 53z + 12$

47. $32x^3 + 28x^2 + 5x$ **48.** $25p^2 + 20pq - 12q^2$ **49.** $72g^2h - 43gh + 6h$