Name _____ Class _____ Date _____

8-1 Practice

Form G

Adding and Subtracting Polynomials

Find the degree of each monomial.

1. $2b^2c^2$ **2.** $5x$ **3.** $7y^5$ **4.** $19ab$

5. 12 **6.** $\frac{1}{2}z^2$ **7.** t **8.** $4d^4e$

Simplify.

9. $2a^3b + 4a^3b$ **10.** $5x^3 - 4x^3$ **11.** $3m^6n^3 - 5m^6n^3$

12. $-6ab + 3ab$ **13.** $4c^2d^6 - 7c^2d^6$ **14.** $315x^2 - 30x^2$

Write each polynomial in standard form. Then name each polynomial based on its degree and number of terms.

15. $15x - x^3 + 3$ **16.** $5x + 2x^2 - x + 3x^4$ **17.** $9x^3$

18. $7b^2 + 4b$ **19.** $-3x^2 + 11 + 10x$ **20.** $12t^2 + 1 - 3x + 8 - 2x$

Simplify.

21.
$$\begin{array}{r} 8z - 12 \\ +\ 6z + 9 \\ \hline \end{array}$$

22.
$$\begin{array}{r} 9x^3 + 3 \\ +\ 4x^3 + 7 \\ \hline \end{array}$$

23.
$$\begin{array}{r} 6j^2 - 2j + 5 \\ +\ 3j^2 + 4j - 6 \\ \hline \end{array}$$

24. $(3k^2 + 5) + (16x^2 + 7)$ **25.** $(g^4 - 4g^2 + 11) + (-g^3 + 8g)$

26. A local deli kept track of the sandwiches it sold for three months. The polynomials below model the number of sandwiches sold, where s represents days.

Ham and Cheese: $4s^3 - 28s^2 + 33s + 250$
Pastrami: $-7.4s^2 + 32s + 180$

Write a polynomial that models the total number of these sandwiches that were sold.

Name _____ Class _____ Date _____

8-1 Practice (continued) Form G

Adding and Subtracting Polynomials

Simplify.

27. $11n - 4$
$-(5n + 2)$

28. $7x^4 + 9$
$-(8x^4 + 2)$

29. $3d^2 + 8d - 2$
$-(2d^2 - 7d + 6)$

30. $(28e^3 + 3e^2) + (19e^3 + e^2)$

31. $(-12h^4 + h) - (-6h^4 + 3h^2 - 4h)$

32. A small town wants to compare the number of students enrolled in public and private schools. The polynomials below show the enrollment for each:

Public School: $-19c^2 + 980c + 48{,}989$
Private School: $40c + 4046$

Write a polynomial for how many more students are enrolled in public school than private school.

Simplify. Write each answer in standard form.

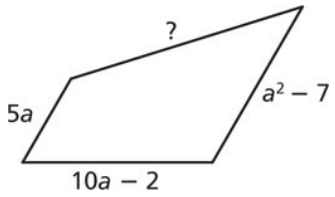
33. $(3a^2 + a + 5) - (2a - 5)$

34. $(6d - 10d^3 + 3d^2) - (5d^3 + 3d - 4)$

35. $(-4s^3 + 2s - 3) + (-2s^2 + s + 7)$

36. $(8p^3 - 6p + 2p^2) + (9p^2 - 5p - 11)$

37. The fence around a quadrilateral-shaped pasture is $3a^2 + 15a + 9$ long. Three sides of the fence have the following lengths: $5a$, $10a - 2$, $a^2 - 7$. What is the length of the fourth side of the fence?



38. Error Analysis Describe and correct the error in simplifying the sum shown at the right.

$$\begin{array}{r} 6x^3 + 4x - 10 \\ +\ (-3x^2 + 2x + 8) \\ \hline 3x^3 + 6x - 2 \end{array}$$

39. Open-Ended Write three different examples of the sum of a quadratic trinomial and a cubic monomial.