

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. $4c^2d^6 - 7c^2d^6$

a) Write each polynomial in standard form.**b) Name each polynomial based on its degree and number of terms.**

13. $15x - x^3 + 3$

14. $5x + 2x^2 - x + 3x^4$

15. $9x^3$

a _____

a _____

a _____

b _____

b _____

b _____

16. $7b^2 + 4b$

17. $-3x^2 + 11 + 10x$

18. $12t^2 + 1 - 3x + 8 - 2x$

a _____

a _____

a _____

b _____

b _____

b _____

Simplify.

19.
$$\begin{array}{r} 8z - 12 \\ + 6z + 9 \\ \hline \end{array}$$

20.
$$\begin{array}{r} 9x^3 + 3 \\ + 4x^3 + 7 \\ \hline \end{array}$$

21.
$$\begin{array}{r} 6j^2 - 2j + 5 \\ + 3j^2 + 4j - 6 \\ \hline \end{array}$$

22. $(3k^2 + 5) + (16x^2 + 7)$

23. $(g^4 - 4g^2 + 11) + (-g^3 + 8g)$

24. 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.

$$\text{Ham and Cheese: } 4s^3 - 28s^2 + 33s + 250$$

$$\text{Pastrami: } -7.4s^2 + 32s + 180$$

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

Simplify.

$$25. \quad \frac{11n - 4}{-(5n + 2)}$$

$$26. \quad \frac{7x^4 + 9}{-(8x^4 + 2)}$$

$$27. \quad \frac{3d^2 + 8d - 2}{-(2d^2 - 7d + 6)}$$

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

$$29. (-12h^4 + h) - (-6h^4 + 3h^2 - 4h)$$

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

$$\text{Public School: } -19c^2 + 980c + 48,989$$

$$\text{Private School: } 40c + 4046$$

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

- 31. Error Analysis** Describe and correct the error in simplifying the sum shown at the right.

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