

8-1**Practice**

Form K

Adding and Subtracting Polynomials**Find the degree of each monomial.**

1. $3s^3t^3$

2. $3n$

3. $5xy$

4. 7

5. $\frac{1}{4}k^5$

6. d

Simplify.

7. $3mn^4 + 6mn^4$

8. $12g^2 - 7g^2$

9. $-11c^4d + 12c^4d$

10. $42z^3 - 15z^3$

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

11. $7a + 4 - a^2$

12. $5b^2 + 2n$

13. $-11d^4$

14. $2x^3 - 9 + 2x + 8 - 4x$

15. A pizza shop owner is monitoring the amount of cheese he uses each week. The polynomials below model the pounds of cheese ordered in the past, where p represents pounds.

Mozzarella: $3p^3 - 6p^2 + 14p + 125$

Cheddar: $12.5p^2 + 18p + 75$

Write a polynomial that models the total number of pounds of cheese that were ordered.

8-1

Practice (continued)

Form K

Adding and Subtracting Polynomials

Simplify.

$$16. \begin{array}{r} 3r + 5 \\ +7r + 3 \\ \hline \end{array}$$

$$18. \begin{array}{r} 7b^2 + 6 \\ +4b^2 + 5 \\ \hline \end{array}$$

$$20. (-6k^3 + 3k) - (-5k^3 + 3k^2 - 8k)$$

$$17. (t^4 - 4t^2 + 9) + (-t^3 + 3t)$$

$$19. \begin{array}{r} 4z + 7 \\ -(6z + 1) \\ \hline \end{array}$$

$$21. \begin{array}{r} 3p^4 + 1 \\ -(9p^4 + 5) \\ \hline \end{array}$$

22. A city wants to compare the number of people who own their own home and who rent their home. The polynomials below show expressions for each. In each polynomial, $p = 0$ corresponds to the first year.

$$\text{Own: } 4p^2 + 360p + 22,178$$

$$\text{Rent: } 6p^2 + 125p + 5286$$

Write a polynomial for how many more own their home than rent their home.

23. The wallpaper border that runs all the way around a room is $5f^2 + 19f + 11$ long. Three sides of the room have the following lengths of border: $6f$, $5f - 7$, $2f^2 + 2$. What is the length of the fourth side of the room?

24. **Open-Ended** Write two different polynomials with a difference of $-3x^2 + 5x - 7$.