

**8-1****Practice B**

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.

**Simplify.**

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

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

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

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

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

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

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  $-3x^2 + 5x - 7$ .