

**10-5 Practice**

7NS2.3, 7AF2.1, 7AF2.2

**Multiplying Monomials****Multiply. Express using exponents.**

1.  $5^9 \cdot 5^3$

2.  $3^8 \cdot 3$

3.  $c \cdot c^6$

4.  $m^5 \cdot m^2$

5.  $3x \cdot 4x^4$

6.  $(2h^7)(7h)$

7.  $-5d^6(8d^6)$

8.  $(6k^5)(-k^4)$

9.  $(-w)(-10w^3)$

10.  $-7z^4(-3z^8)$

11.  $bc^3(b^2c)$

12.  $3a^4 \cdot 6a^2$

13.  $3m^3n^2(8mn^3)$

14.  $\frac{3}{7} \times \left(\frac{3}{7}\right)^{-1}$

15.  $(-4k^{-5})(5k^{-6})$

16.  $7t^5(-6t^5)$

17.  $(-6d^{-4})(-9d^5e^{-5})$

18.  $(3s^5)(-4s^{-6})$

19.  $(-8b^{-2})(2b^{-3})$

20.  $\left(\frac{2}{9}\right)^{-2} \times \left(\frac{2}{9}\right)^{-4}$

21.  $(3ab^2)(a^2c^5)$

22.  $(9p^4)(-8p^2)$

23.  $(6f^5)(-f^{-2}g^3)$

24.  $-10v^4(2v^5)$

**25. CAR LOANS** After making a down payment, Mr. Valle will make  $6^2$  monthly payments of  $6^3$  dollars each to pay for his new car. What is the total of the monthly payments?

**26. MEASUREMENT** Find the area of a rectangle with a width of  $4x$  and a length of  $6x$ .

**10-6 Practice**

7NS2.3, 7AF2.1, 7AF2.2

**Dividing Monomials****Divide. Express using exponents.**

1.  $\frac{5^9}{5^3}$

2.  $\frac{3^8}{3}$

3.  $\frac{b^6}{b^4}$

4.  $\frac{g^{15}}{g^7}$

5.  $\frac{18v^5}{9v}$

6.  $\frac{24a^6}{6a^5}$

7.  $\frac{30s^7t}{5st}$

8.  $\frac{28p^5q^4}{14p^4q^3}$

9.  $(9j^7k^4) \div (3j^6k)$

10.  $(32x^9y^5) \div (16x^5y^3)$

11.  $\frac{\left(\frac{2}{7}\right)^2 \times \left(\frac{2}{7}\right)^{-5}}{\left(\frac{2}{7}\right)^3}$

12.  $\frac{4b^5}{2b^{-8}}$

13.  $\frac{5^8 \cdot 5^2 \cdot 5^4}{5^7 \cdot 5^4 \cdot 5^6}$

14.  $\frac{36^{-6}}{36^2}$

15.  $\frac{p}{p^4}$

16.  $\frac{7^{-3}}{7^{-6}}$

17.  $\frac{\left(\frac{1}{3}\right)^{-2} \times \left(\frac{1}{3}\right)}{\left(\frac{1}{3}\right)^2}$

18.  $\frac{95^{21}}{95^{18}}$

19.  $\frac{v^{20}}{v^{30}}$

20.  $(8b^6d^9) \div (2b^2d^3)$

21.  $\frac{n^{19}}{n^{11}}$

22.  $\frac{32s^6t^4}{16s^4t^3}$

23.  $y^6 \div y^3$

24.  $\frac{a^2b^2}{b^2}$

25. **BONUSES** A company has set aside  $10^7$  dollars for annual employee bonuses. If the company has  $10^4$  employees and the money is divided equally among them, how much will each employee receive?

26. **ACIDITY** For each increase of one in pH level, the acidity of a substance is 10 times greater. The pH level of baking soda is 8, and the pH level of lye is 13. How many times greater is the alkalinity of lye than that of baking soda?