Name _____ Date _____ Class _____

SKILL 61

Skills Readiness

Multiply and Divide Monomials

Multiplying Monomials	Dividing Monomials
Step 1: Multiply the coefficients. If a variable does not have a coefficient, it is understood to be 1. **Step 2:** Add the exponents of those variables that are the same. If a variable does not have an expressed exponent, it is understood to be 1.	**Step 1:** If the expression contains numbers in the numerator and the denominator, simplify the numbers by reducing if possible. **Step 2:** Subtract the exponents of those variables that are the same. If the exponent in the numerator is larger, then the difference between the exponents stays in the numerator. Likewise, if the exponent in the denominator is larger, then the difference between the exponents stays in the denominator.
Exponents Rule: $x^a \cdot x^b = x^{a+b}$	Exponents Rule: $\frac{x^a}{x^b} = x^{a-b}$
Example 1: $6a^3b \cdot 7a^2b^2 = (6)(7)a^{3+2}b^{1+2} = 42a^5b^3$	Example 2: $\frac{15m^4n^2}{9m^2n^3} = \frac{5m^{4-2}}{3n^{3-2}} = \frac{5m^2}{3n}$

Practice on Your Own

Multiply or divide.

1. $5mn^2 \cdot 2m^3$ _____

2. $\frac{36x^4y}{9x^2}$ _____

3. $-40a^3 \cdot \frac{1}{2}ab$ _____

4. $\frac{20t^2}{8t^5}$ _____

5. $\frac{-2f^4g^3}{6f^2g^3}$ _____

6. $p^2qr^3 \cdot (-3pq)$ _____

7. $-uv \cdot (-u^3)$ _____

8. $\frac{-12c^5d^2}{-3c^3d^7}$ _____

9. $12hk \cdot 12hk$ _____

10. $\frac{-5tuv^2}{5tuv^2}$ _____

11. $-10xyz \cdot (-y^2z)$ _____

12. $\frac{-2w^5z}{18w^4}$ _____

Check

Multiply or divide.

13. $7s \cdot 5s^3t$ _____

14. $\frac{-3x^2y^4}{15xy^5}$ _____

15. $8bc \cdot (-b^3c^3)$ _____

16. $\frac{45p^3q^4r}{9p^2qr}$ _____

17. $\frac{-100m^3n^3}{60m^2n^2}$ _____

18. $-9uw \cdot (-4u^2w^3)$ _____

19. $-\frac{1}{3}x^6y \cdot 30x^2y$ _____

20. $\frac{56f^4g^2}{8f^5g^2}$ _____