

7-5

Practice

Form G

Division Properties of Exponents

Simplify each expression.

1. $\frac{5^6}{5^2}$

2. $\frac{5^5}{5^2}$

3. $\frac{x^7}{x^4}$

4. $\frac{m^{-3}}{m^{-5}}$

5. $\frac{x^6y^9}{x^2y^5}$

6. $\frac{21m^8}{3m^2}$

7. $\left(\frac{3}{5}\right)^4$

8. $\left(\frac{3x}{2y}\right)^3$

9. $\left(\frac{4}{7}\right)^{-2}$

10. $\left(\frac{3x^4}{2y^5}\right)^{-3}$

11. $\left(\frac{12p^3}{15p}\right)^4$

12. $\left(\frac{ab^3}{a^5b}\right)^{-2}$

13. $\left(\frac{3x^2y^5z^{-2}}{5xz^5}\right)^{-3}$

14. $\frac{(4m^2)(3n^5)}{(2m^{-3})(-mn)^3}$

Explain why each expression is *not* in simplest form.

15. $2^4 r^3$

16. $(3x)^2$

17. $m^3 n^0$

18. $\frac{y^5}{y}$

21. The area of a triangle is $80x^5 y^3$. The height of the triangle is $x^4 y$. What is the length of the base of the triangle?

22. Simplify the expression $\left(\frac{12m^5}{15m}\right)^3$ by raising each factor in the parentheses to the third power and next reducing the result.

23. Then simplify $\left(\frac{12m^5}{15m}\right)^3$ by some other method. Explain your method. Are the results the same? Which method do you prefer?