8–3 Practice

NAME _____ DATE _____ PERIOD _____

Student Edition
Pages 347–351

Negative Exponents

Write each expression using positive exponents. Then evaluate the expression.

1. 2^{-6}
   $\frac{1}{2^6} = \frac{1}{64}$

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

3. 8^{-2}
   $\frac{1}{8^2} = \frac{1}{64}$

4. 10^{-3}
   $\frac{1}{10^3} = \frac{1}{1000}$

Simplify each expression.

5. g^{-6}
   $\frac{1}{g^6}$

6. s^{-1}
   $\frac{1}{s}$

7. q^0
   1

8. $a^{-2}b^2$
   $\frac{b^2}{a^2}$

9. m^5n^{-1}
   $\frac{m^5}{n}$

10. $p^{-1}q^{-6}r^3$
    $\frac{r^3}{pq^6}$

11. $x^{-3}y^2z^{-4}$
    $\frac{y^2}{x^3z^4}$

12. $a^{-2}b^0c^{-1}$
    $\frac{1}{a^2c}$

13. $12m^{-6}n^4$
    $\frac{12n^4}{m^6}$

14. $7xy^{-8}z$
    $\frac{7xz}{y^8}$

15. $x^{-3}(x^2)$
    $\frac{1}{x}$

16. $b^3(b^{-5})$
    $\frac{1}{b^2}$

17. $\frac{b^3}{b^6}$
    $\frac{1}{b^3}$

18. $\frac{y^3}{y^{-2}}$
    y^5

19. $\frac{m^5n^3}{m^6n^2}$
    $\frac{n}{m}$

20. $\frac{xy^2}{xy^3}$
    $\frac{1}{y}$

21. $\frac{a^7b^4}{a^9b^2}$
    $\frac{b^2}{a^2}$

22. $\frac{rs^{-3}}{r^2s^4}$
    $\frac{1}{rs^7}$

23. $\frac{16c^8}{4c^{10}}$
    $\frac{4}{c^2}$

24. $\frac{9x^{-5}y^5}{36x^4y^3}$
    $\frac{y^2}{4x^9}$

25. $\frac{7p^2q^6}{21p^{-3}q^7}$
    $\frac{p^5}{3q}$

26. $\frac{-6m^5n^2q^{-1}}{36m^{-2}n^4q^{-1}}$
    $-\frac{m^7}{6n^2}$

27. $\frac{4a^3b^2c^2}{6a^5b^3c}$
    $\frac{2c}{3a^2b}$

28. $\frac{28x^5y^{-3}z}{-4x^4yz^3}$
    $-\frac{7x}{y^4z^2}$