Unit 4 Day 3: Division Properties of Exponents Worksheet

Name _____ Class _____ Date _____

Practice 8-5

Division Properties of E

Simplify each expression.

1. $\frac{c^{15}}{c^9}$
2. $\left(\frac{x^3y^{-2}}{z^{-5}}\right)^{-4}$
3. $\frac{x^7y^9z^3}{x^4y^7z^8}$
4. $\left(\frac{a^2}{b^3}\right)^5$
5. $\frac{3^7}{3^4}$
6. $\left(\frac{a^3}{b^2}\right)^4$
7. $\left(\frac{2}{3}\right)^{-2}$
8. $\left(\frac{p^{-3}q^{-2}}{q^{-3}r^5}\right)^4$
9. $\frac{a^6b^{-5}}{a^{-2}b^7}$
10. $\frac{7^{-4}}{7^{-7}}$
11. $\frac{a^7b^6}{a^5b}$
12. $\left(\frac{a^2b^{-4}}{b^2}\right)^5$
13. $\left(-\frac{3}{2^3}\right)^{-2}$
14. $\frac{z^7}{z^{-3}}$
15. $\left(\frac{5a^0b^4}{c^{-3}}\right)^2$
16. $\frac{x^4y^{-8}z^{-2}}{x^{-1}y^6z^{-10}}$
17. $\frac{m^6}{m^{10}}$
18. $\left(\frac{2^3m^4n^{-1}}{p^2}\right)^0$
19. $\left(\frac{s^{-4}}{t^{-1}}\right)^{-2}$
20. $\left(\frac{2a^3b^{-2}}{c^3}\right)^5$
21. $\left(\frac{x^{-3}y}{xz^{-4}}\right)^{-2}$
22. $\frac{h^{-13}}{h^{-8}}$
23. $\frac{4^6}{4^8}$
24. $\left(\frac{1}{3}\right)^3$
25. $\frac{x^5y^3}{x^2y^9}$
26. $\left(\frac{m^{-3}n^4}{n^{-2}}\right)^4$
27. $\frac{4^{-1}}{4^2}$
28. $\left(\frac{a^8b^6}{a^{11}}\right)^5$
29. $\frac{n^9}{n^{15}}$
30. $\left(\frac{r^3s^{-1}}{r^2s^6}\right)^{-1}$
31. $\frac{n^{-8}}{n^4}$
32. $\frac{m^8n^3}{m^{10}n^5}$

Review: Zero and Negative Exponents

Write each expression as an integer, a simple fraction, or an expression that contains only positive exponents. Simplify.

1. 10^{-3}
2. 1.67^0
3. 5^{-4}
4. 7^{-3}
5. $\left(-\frac{3}{2}\right)^{-2}$
6. $(5x)^{-4}$
7. 4^{-1}
8. 376.5^0
9. b^{-5}