

7-4 Practice

Division Properties of Exponents

Form G

Simplify each expression.

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

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

3. $\frac{x^{\frac{5}{8}}}{x^{\frac{3}{8}}}$

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

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

6. $\frac{21m^{\frac{3}{4}}}{3m^{\frac{1}{4}}}$

7. $\frac{3x^4}{5y}$

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

9. $\frac{4x^{-2}}{7y}$

10. $\frac{3x^4}{2y^5}$

11. $\frac{12p^{\frac{3}{4}}}{15p}$

12. $\frac{ab^3}{a^5 b}$

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

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

7-4**Practice** (continued)

Form G

Division Properties of Exponents

Simplify each answer in scientific notation.

1) $(1.08 \times 10^{-3})(9.3 \times 10^{-3})$

2) $(2 \times 10^{-4})(8.1 \times 10^{-1})$

3) $(2.32 \times 10^{-6})(4 \times 10^{-5})$

4) $(3.48 \times 10^3)(9.8 \times 10^4)$

5) $(7.1 \times 10^{-5})(6.7 \times 10^{-6})$

6) $(6 \times 10^3)(9.91 \times 10^0)$

7) $\frac{7.1 \times 10^6}{8.2 \times 10^1}$

8) $\frac{5.4 \times 10^{-1}}{3.4 \times 10^1}$

9) $\frac{4 \times 10^4}{3.63 \times 10^{-4}}$

10) $\frac{9 \times 10^{-5}}{9.24 \times 10^{-6}}$

11) $\frac{8.42 \times 10^3}{5 \times 10^2}$

12) $\frac{8.9 \times 10^6}{8.4 \times 10^6}$

13) $(8.9 \times 10^5)^4$

14) $(4 \times 10^{-5})^{-6}$