

7.R.2 Exercises

Concept Check

True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

1. Taking the reciprocal of a fraction changes the sign of any exponent in the fraction.
2. For an exponent to refer to -7 as the base, -7 must be in parentheses.
3. When simplifying an expression with exponents, the rules for exponents must be used in a specific order or the answer will vary.
4. The expression -8^2 simplifies to -64 .

Practice

Use the rules for exponents to simplify each of the expressions. Assume that all variables represent nonzero real numbers.

5. $(2^{-3})^{-2}$

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

6. $-3(7xy^2)^0$

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

7. $-2(3x^5y^{-2})^{-3}$

10. $\left(\frac{5a^4b^{-2}}{6a^{-4}b^3}\right)^{-2} \left(\frac{5a^3b^4}{2^{-2}a^{-2}b^{-2}}\right)^3$