

LESSON PRACTICE

1A

Simplify, and express with positive exponents. Because we cannot divide by zero, the value of an unknown is assumed to be such that the denominator will not equal zero.

1. $3^{-2} =$

2. $x^{-1} =$

3. $\left(-\frac{2}{3}\right)^2 =$

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

5. $\frac{1}{x^{-5}} =$

6. $\left(\frac{1}{2}\right)^3 =$

Multiply.

7. $2^2 \cdot 2^6 \cdot 2^3 =$

8. $R \cdot R^4 \cdot R^2 =$

9. $x^{-1} \cdot x^3 \cdot x^{-4} =$

10. $3^A \cdot 3^B =$

11. $4^0 \cdot 4^{-2} \cdot 4^2 =$

12. $x^A \cdot x^{2A} \cdot x^B =$

If you need to review algebra concepts, go to the "Basic Algebra Review" on page 387 of this book.

Divide.

13. $5^2 \div 5^6 =$

14. $Y^3 \div Y^0 =$

15. $\frac{2^{-4}}{2^{-2}} =$

16. $X^{16} \div X^7 =$

17. $B^{-2} \div B^4 =$

18. $\frac{Y^4}{Y^8} =$

Simplify. The first one is done for you.

19. $(2X^3)^4 = (2)^4(X^3)^4$
 $= (2)^4(X^{3 \times 4}) = 16X^{12}$

20. $(5^0)^3 =$

21. $[(A^2)^2]^3 =$

22. $\frac{A^3B^3}{A^{-2}B^4} =$

23. $\frac{H^{-4}N^6}{HN^2} =$

24. $\frac{P^{-2}Q^0P^3}{Q^{-1}Q^6P^4} =$

SYSTEMATIC REVIEW

1E

Simplify.

1. $(1/3)^2 =$

2. $(10^2)^{-4} =$

3. $4^A \cdot 4^B =$

4. $11 \div 11^0 =$

5. $(3^D)^4 =$

6. $(5^3)^2 =$

7. $\frac{B^5B^2C^{-5}}{B^{-4}C^{-3}} =$

8. $\frac{D^6C^{-4}D^2}{D^{-4}C^0C^2} =$

9. $(-2 \frac{3}{4})^2 =$

10. $(-10)^4 =$

Multiply all the elements of the equation by the least common multiple to simplify, and then solve. Use fractions rather than decimals in your answers.

11. $-5 \frac{1}{2} Y - \frac{2}{9} = \frac{5}{18}$

12. $-.7A + .8A = 1.2$

13. $1 \frac{2}{3} = -2 \frac{1}{4} + 1 \frac{3}{5} A$

14. $3X - 1.6 = .34$

Find the greatest common factor, and simplify the expression using parentheses.

$$15. 9M - 10M^3 + 19M^2 =$$

$$16. -36M - 72M^2 + 45M^2$$

Use the distributive property to eliminate the parentheses.

$$17. A^3(XA + 2X^2A - A^2) =$$

$$18. AB(A^2 - 4AB + 2B) =$$

Solve.

$$19. -19 - |(7)(-2)| + 6^2 =$$

$$20. 5 \times 3 + 7^2 - 7 + |-8 \div 4| =$$