

LESSON  
**4.7**

Name \_\_\_\_\_ Date \_\_\_\_\_

## Practice A

For use with pages 201-204

**Complete the statement.**

- $a^{-n}$  is equal to  $\frac{1}{?^?}$ .
- If  $a$  is a nonzero number, then  $a^0 = \underline{\hspace{2cm}}$ .

**Evaluate the expression.**

- |                          |                |                       |                 |
|--------------------------|----------------|-----------------------|-----------------|
| 3. $6^{-2}$              | 4. $(-3)^{-5}$ | 5. $7^{-6} \cdot 7^4$ | 6. $13^0$       |
| 7. $3^{-2} \cdot 3^{-5}$ | 8. $4^{-6}$    | 9. $158^0$            | 10. $(-4)^{-2}$ |

**Write the expression using only positive exponents.**

- |  |                                   |                                     |
|--|-----------------------------------|-------------------------------------|
| 11. $x^{-7} \cdot x^4$                 | 12. $w^6 \cdot w^{-6}$            | 13. $4p^{-5}$                       |
| 14. $a^{-2} \cdot a^{-3} \cdot a^{-6}$ | 15. $z^5 \cdot z^2 \cdot z^{-7}$  | 16. $\frac{3f^{-4}}{f^6}$           |
| 17. $\frac{s^{-3}}{s^5}$               | 18. $\frac{24t^{-5}}{6t^2}$       | 19. $\frac{14y^{-12}}{7y^3}$        |
| 20. $\frac{2^{-3}x}{2^5}$              | 21. $\frac{8^{-4}u^{-2}}{8^2u^7}$ | 22. $m^3 \cdot p^{-2} \cdot p^{-4}$ |

- An egg laid by a posture canary in 1998 measured 7 millimeters long. Use the fact that 1 micrometer =  $10^{-6}$  meters to find the length of the egg in micrometers.
- Power is measured in units called *watts*. This unit can be expressed as  $\text{ft} \cdot \text{lb} \cdot \text{s}^{-1}$ . Write the unit without negative exponents.
- You measure the pressure of the air in your bike tire in units called *psi*. This unit can be expressed as  $\text{lb} \cdot \text{in.}^{-2}$ . Write the unit without negative exponents.