Name: **Date:**

Practice: Working with Rational Exponents A

Rewrite each exponential expression as a radical expression. Do not evaluate.

1. $5^{\frac{1}{4}}$

2. $g^{\frac{2}{9}}$

3. $-10^{\frac{3}{7}}$

Rewrite each radical expression as an exponential expression. Do not evaluate.

4. $\sqrt[2]{20^3}$

5. $\sqrt[6]{r^s}$

Evaluate each expression.

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

7. $\sqrt[4]{5^3}$

continued

Name: **Date:**

Use the information given in each scenario to solve the problems.

8. A population of bacteria is growing rapidly. The population at any hour, h, can be represented by the function $f(h) = 2 \cdot 4^h$. What is the population of bacteria after $4\frac{1}{2}$ hours?

9. A car loses value each year. The value of the car t years from today can be modeled using the function $f(t) = 15{,}000(0.85)^t$. If Elizabeth wants to sell her car in $2\frac{1}{3}$ years, what will the car's value be when she sells it?

10. Isaac deposits \$2,000 in a savings account with an annually compounded interest rate of 3%. The amount of money in the account in any year t after opening the account can be represented by the function $f(t) = 2000(1.03)^t$. Isaac plans to take all of his savings out of the account in $6\frac{3}{4}$ years. How much money will he have in savings at that time?