

Name _____

3-3 Lesson Master

Questions on SPUR Objectives
See Student Edition pages 216–219 for objectives.

SKILLS Objective A

In 1–3, an equation of the form $f(x) = k$ is given. a. Identify the function f and find an equation for its inverse f^{-1} . b. Solve the equation by applying f^{-1} to both sides.

1. $3^x = 2187$ a. _____ b. _____
2. $\sqrt[5]{x+2} = 1$ a. _____ b. _____
3. $x^3 - 6 = 21$ a. _____ b. _____

PROPERTIES Objective D

In 4 and 5, equations for two functions are given. Show that the functions are inverses.

4. $f(x) = 2^x + 1, g(x) = \log_2(x - 1)$ _____

5. $p(x) = -4x + 12, q(x) = \frac{-x + 12}{4}$ _____

6. Suppose (p, b) is on the graph of the function h . Name a point on the graph of h^{-1} . _____
7. Over what domain is the inverse of the absolute value function also a function?

USES Objective J

8. Suppose a bookstore is having a sale where every fifth book you buy is free. Let p be the function mapping the number of books you buy onto your final cost. Is the inverse of p a function? Explain your answer.

REPRESENTATIONS Objective L

In 9 and 10, a function is graphed. Sketch a graph of its inverse and tell if it is a function.

