

Name _____

9-5A Lesson Master

Questions on SPUR Objectives
See Student Edition pages 656–659 for objectives.

VOCABULARY

In 1 and 2, write the exponential equation as a logarithmic equation, or vice-versa.

1. a. $10^{-3} = \frac{1}{1000}$ _____ b. $10^{0.078} \approx 1.197$ _____ c. $10^m = n$ _____
 2. a. $\log 1 = 0$ _____ b. $\log 390 \approx 2.591$ _____ c. $\log c = t$ _____

SKILLS Objective A

Fill in the Blanks In 3 and 4, a. determine in your head what consecutive integers the logarithm is between. b. Check by finding the logarithm to the nearest thousandth with a calculator.

3. a. $\log 4239$ is between _____ and _____. b. $\log 4239 \approx$ _____ .
 4. a. $\log 0.023$ is between _____ and _____. b. $\log 0.023 \approx$ _____ .

SKILLS Objective C

In 5 and 6, write the equivalent exponential equation; use it to solve the logarithmic equation.

5. $\log n = 3$ _____ 6. $\log a = -2.86$ _____
 7. Solve $3 \log(2x) = 6$ for x . _____

PROPERTIES Objective E

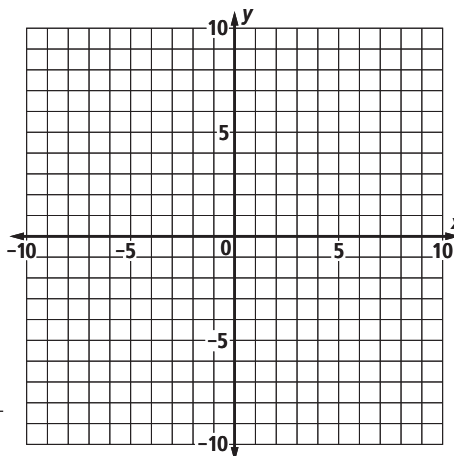
8. If $f(x) = \log x$ for $x > 0$, then $f^{-1}(x) =$ _____ .
 9. Explain why $\log 10^n = n$ for all real numbers n . _____

REPRESENTATIONS Objective K

In 13–15, consider the graphs of $f(x) = 10^x$ and $g(x) = \log x$.

10. Graph each function at the right. Label three points on the graph of f with their coordinates, and the corresponding points on the graph of g .
 11. Give the domain and range of each function.

 12. Give the x - and y -intercepts of each function, if they exist.



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