Lesson 8.3 Practice: Properties of Logarithms

School Launch · Algebra II · Unit 8: Logarithmic Functions · Worksheet A

Calculator for decimals

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. Evaluate using properties: $\log_{2} 4 + \log_{2} 4$. EASY

2. Evaluate using properties: $\log_{3} 9 + \log_{3} 9$. EASY

3. Evaluate using properties: $\log_{3} 3 + \log_{3} 3$. EASY

4. Expand: $\log_{3}\left(\frac{x^{4}\sqrt{y}}{z^{3}}\right)$. MEDIUM

5. Expand: $\log_{3}\left(\frac{x^{5}\sqrt{y}}{z^{2}}\right)$. MEDIUM

6. Expand: $\log_{2}\left(\frac{x^{3}\sqrt{y}}{z^{3}}\right)$. MEDIUM

7. Expand: $\log_{3}\left(\frac{x^{3}\sqrt{y}}{z^{3}}\right)$. MEDIUM

8. Expand: $\log_{5}\left(\frac{x^{5}\sqrt{y}}{z^{2}}\right)$. HARD

9. Expand: $\log_{5}\left(\frac{x^{4}\sqrt{y}}{z^{4}}\right)$. HARD

10. Expand: $\log_{2}\left(\frac{x^{2}\sqrt{y}}{z^{3}}\right)$. HARD