

Q2 HW7 - All work on looseleaf.

Date_____ Period_____

Expand each logarithm using the "rules for logarithms."

1) $\log_2 (ab^3)$

2) $\log_9 \frac{u}{v^4}$

3) $\log_3 \frac{5^5}{6}$

4) $\log_3 (x \cdot y)^4$

Condense each expression to a single logarithm using the "rules for logarithms."

5) $\log_3 u + \log_3 v + \log_3 w$

6) $\frac{5 \log_2 a}{3}$

Evaluate each expression.

7) $\log_4 64$

8) $\log_7 \frac{1}{49}$

Use a calculator to approximate each to the nearest thousandth.

9) $\log_3 22$

10) $\log_2 2.6$

11) $\log_5 6.5$

12) $\log 51$

Solve each equation.

13) $\log (2x + 7) = \log (1 - 4x)$

14) $\log_7 (4n - 10) = \log_7 2n$

15) $4^{2m+2} = 64$

16) $3^{2-2r} = 3^{2r}$

Solve each equation. Round your answers to the nearest ten-thousandth.

17) $11^{4x} = 84$

18) $20^{n-4} = 89$

19) $17^{b-8} = 67.5$

20) $15^{v-4} = 41$