Algebra 2

6-04 Logarithmic Properties (6.5)

Properties of Logarithms

- Product Property

$$\log_b uv = \log_b u + \log_b v$$

- Quotient Property

$$\log_b \frac{u}{v} = \log_b u - \log_b v$$

- Power Property

$$\log_b u^n = n \log_b u$$

Expand logarithms

- Rewrite as _____ logs

$\log 10x^5$ $\ln \frac{x}{3y}$

Condense logs

- Try to write as a _____ log

$\log_5 4 + \frac{1}{3}\log_5 x$ $6 \ln x + 4 \ln y$

Change-of-Base Formula

$$\log_c u = \frac{\log_b u}{\log_b c}$$

- This lets you evaluate any log on a _____

Evaluate $\log_9 15$ Evaluate $\log_4 7$

327#11-17 odd; 21-27 odd; 29-35 odd; 37-38; 46, 47, 51, 57, 59, 61 = 20