

DATE: _____

Logarithm Practice

1. Expand using properties of logarithms:

a) $\log_3 rt$

d) $\ln \frac{u}{7}$

b) $\log_f k^3$

e) $\log_4 \frac{3y}{gh}$

c) $\log_5 2f^3h^4$

f) $\log_9 \frac{2d}{5w^3}$

2. Write as a single logarithm using properties of logarithms:

a) $\log_2 t + \log_2 6 + \log_2 k$

d) $\log_3 y - \log_3 6 - 2\log_3 t$

b) $2\log_4 m + 5\log_4 n + \log_4 k$

e) $2\log_6 t + 3\log_6 t + 5\log_6 t$

c) $\frac{1}{2}\log_8 a + \frac{1}{3}\log_8 b$

f) $\ln x - 3\ln x + 2\ln x$