

Name _____

Date _____

Algebra 2 and Trig – Logarithmic Laws **Homework**1. Rewrite each expression in terms of $\log_m a$, $\log_m b$, or $\log_m c$. (If can't be done state so)

a. $\log_m (a^7 b)$

b. $\log_m a\sqrt{b}$

c. $\log_m \left(\frac{a^2}{b^3} \right)$

d. $\log_m \left(\frac{a^5 b^6}{c^3} \right)$

e. $\log_m a^3 + b^5$

f. $\log_m \left(\frac{a^6 c^7}{\sqrt[5]{b}} \right)$

g. $\log_m \left(\frac{b^8 \sqrt[7]{c}}{\sqrt[3]{a}} \right)$

h. $\log_m \left(\frac{a^4 \sqrt{c}}{b^5} \right)$

2. If $\log_m x = a$, $\log_m y = b$, and $\log_m z = c$, express the following in terms of a , b , and c .

a. $\log_m \frac{(xy)^7}{z^5}$

b. $\log_m \left(\frac{x^8 \sqrt[3]{y}}{\sqrt{z}} \right)$

c. $\log_m \left(\frac{x^6 y^2}{\sqrt[5]{z}} \right)$

d. $\log_m \left(\frac{x^3 \sqrt{y}}{z^4} \right)$

e. $\log_m \sqrt[3]{\frac{x^2 y}{z^4}}$