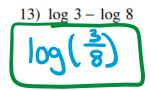
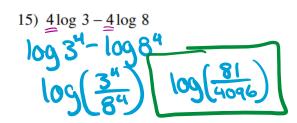
Condensing Logs Homework

Condense each expression to a single logarithm.





19)
$$6 \log_3 u + 6 \log_3 v$$

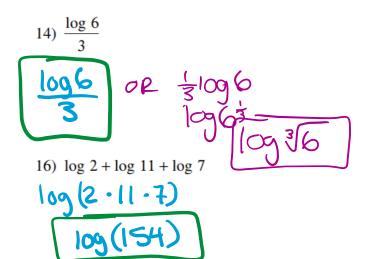
 $\log_3 u + \log_3 v$
 $\log_3 (u + v)$

23)
$$20 \log_6 u + 5 \log_6 v$$

Critical thinking questions:

25)
$$2(\log 2x - \log y) - (\log 3 + 2\log 5)$$

 $2\log 2x - 2\log y - (\log 3 \cdot 5^2)$
 $\log(2x)^2 - \log y^2 - \log 75$
 $\log(4x^2 - \log y^2 - \log 75)$



18)
$$\frac{2 \log 7}{3}$$
 $\frac{\log 7}{3} = \frac{\log 49}{3}$
 $\frac{1}{3} \log 49$
20) $\ln x - 4 \ln y$
 $\log 49^{\frac{1}{3}}$
 $\log 49^{\frac{1}{3}}$

$$\frac{22) \log_3 u - 5 \log_3 v}{\sqrt{5}}$$

24)
$$4\log_3 u - 20\log_3 v$$
 $\log_3 u^{-1} - \log_3 v^{-20}$

26) $\log x \cdot \log 2$

