

February 16, 2012

Alg2

Get out your homework...

## 2/16 - Writing Logs in Terms of Other Logs

Use these values to evaluate the other logs.

$$\log 12 \approx 1.1$$

$$\log 8 \approx 0.9$$

$$\log 7 \approx 0.8$$

$$\text{Find } \log \frac{1}{7}$$

$$= \log 7^{-1}$$

$$= -\log 7$$

$$\approx -0.8$$

$$\text{Find } \log \frac{1}{144}$$

$$= \log 12^{-2}$$

$$= -2 \log 12$$

$$\approx -2(1.1)$$

$$\approx -2.2$$

$$\log 12 \approx 1.1$$

$$\log 8 \approx 0.9$$

$$\log 7 \approx 0.8$$

Find  $\log 96$

$$\begin{aligned} & \log (8 \cdot 12) \\ &= \log 8 + \log 12 \\ &\approx 0.9 + 1.1 \\ &\approx 2.0 \end{aligned}$$

Find  $\log \frac{3}{2}$

$$\begin{aligned} & \log \frac{12}{8} \\ &= \log 12 - \log 8 \\ &\approx 1.1 - 0.9 \\ &\approx 0.2 \end{aligned}$$

$$\log 12 \approx 1.1$$

$$\log 8 \approx 0.9$$

$$\log 7 \approx 0.8$$

$$\text{Find } \log \frac{8}{49}$$

$$\begin{aligned} & \log \frac{8}{49} \\ &= \log 8 - 2 \log 7 \\ & \doteq 0.9 - 2(0.8) \\ & \doteq 0.9 - 1.6 \\ & \doteq -0.7 \end{aligned}$$

$$\text{Find } \log \frac{16 \cdot 4}{3 \cdot 4}$$

$$\begin{aligned} & \log \frac{64}{12} \\ &= \log 8^2 - \log 12 \\ & \doteq 2(0.9) - 1.1 \\ & \doteq 1.8 - 1.1 \\ & \doteq 0.7 \end{aligned}$$

$$\log 12 \approx 1.1$$

$$\log 8 \approx 0.9$$

$$\log 7 \approx 0.8$$

$$\text{Find } \log \frac{16 \cdot 4}{21 \cdot 4}$$

$$\begin{aligned} & \log \frac{64}{84} \\ &= \log 8^2 - \log(7 \cdot 12) \\ &= 2 \log 8 - \log 7 - \log 12 \end{aligned}$$

$$\text{Find } \log \frac{49}{64}$$

$$\begin{aligned} & \log \left( \frac{7}{8} \right)^2 \\ &= 2 \log 7 - 2 \log 8 \end{aligned}$$

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# Homework

Logarithm WS2

Due **Tuesday**

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