

Approximating Logarithmic Expressions

Name _____

Date _____ Period _____

Product Property

$$\log_b m \cdot n = \log_b m + \log_b n$$

Power Property

$$\log_b m^x = x \cdot \log_b m$$

Quotient Property

$$\log_b \frac{m}{n} = \log_b m - \log_b n$$

Special Log Properties

$$\log_b b = 1 \quad \log_b 1 = 0$$

Given $\log_7 5 \approx 0.827$ and $\log_7 3 \approx 0.565$, approximate the following

$$\log_7 15$$

$$\log_7 9$$

Given $\log_7 5 \approx 0.827$ and $\log_7 3 \approx 0.565$, approximate the following

$$\log_7 75$$

$$\log_7 45$$

Given $\log_7 5 \approx 0.827$ and $\log_7 3 \approx 0.565$, approximate the following

$$\log_7 7 = 1 \quad \log_7 1 = 0$$

$$\log_7 21$$

$$\log_7 35$$

Given $\log_7 5 \approx 0.827$ and $\log_7 3 \approx 0.565$, approximate the following

$$\log_7 7 = 1 \quad \log_7 1 = 0$$

$$\log_7 \frac{35}{3}$$

$$\log_7 \frac{7}{15}$$

Given $\log_4 3 \approx 0.792$ and $\log_4 7 \approx 1.403$, approximate the following

$$\log_4 4 = 1 \quad \log_4 1 = 0$$

$$\log_4 28$$

$$\log_4 84$$

Given $\log_4 3 \approx 0.792$ and $\log_4 7 \approx 1.403$, approximate the following

$$\log_4 4 = 1 \quad \log_4 1 = 0$$

$$\log_4 \frac{1}{21}$$

$$\log_4 \frac{28}{3}$$

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Special Log Properties

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