

Student Name: \_\_\_\_\_

Score: \_\_\_\_\_

**Rewrite as Single Logarithm**

$$\log_3 2 + \log_3 4$$

Answer: \_\_\_\_\_

$$\log_2 12 - \log_2 4$$

Answer: \_\_\_\_\_

$$\log_7 6 + \log_7 4 - \log_7 8$$

Answer: \_\_\_\_\_

$$\log_3 6 + \log_3 7 - \log_3 3 - \log_3 6$$

Answer: \_\_\_\_\_

$$\frac{1}{3} \log_4 3 + 2 \log_4 5$$

Answer: \_\_\_\_\_

$$4 \log_5 2 - 2 \log_5 4$$

Answer: \_\_\_\_\_

$$\frac{\log_{10} 2}{2} + \frac{\log_{10} 4}{3}$$

Answer: \_\_\_\_\_

$$4 \log_8 12 - 4 \log_8 4$$

Answer: \_\_\_\_\_

Student Name: \_\_\_\_\_

Score: \_\_\_\_\_

### Answers

$\log_3 2 + \log_3 4$	$\log_2 12 - \log_2 4$
Answer: $\log_3 8$	Answer: $\log_2 3$
$\log_7 6 + \log_7 4 - \log_7 8$	$\log_3 6 + \log_3 7 - \log_3 3 - \log_3 6$
Answer: $\log_7 3$	Answer: $\log_3 \frac{7}{3}$
$\frac{1}{3} \log_4 3 + 2 \log_4 5$	$4 \log_5 2 - 2 \log_5 4$
Answer: $\log_4 25^3 \sqrt{3}$	Answer: $\log_5 1$ or 0
$\frac{\log_{10} 2}{2} + \frac{\log_{10} 4}{3}$	$4 \log_8 12 - 4 \log_8 4$
Answer: $\log_{10} \sqrt{2} \cdot \sqrt[3]{4}$	Answer: $\log_8 81$