

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

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

**Expand Using Quotient Rule**

*Example:*  $\log_2 \left(\frac{4}{3}\right)$

$$\log_2 \left(\frac{4}{3}\right) = \log_2 4 - \log_2 3$$

Answer:  **$\log_2 4 - \log_2 3$**

$$\log_4 \left(\frac{8}{7}\right)$$

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

$$\log_6 \left(\frac{11}{5}\right)$$

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

$$\log_{10} \left(\frac{2}{9}\right)$$

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

$$\log_8 \left(\frac{4}{9}\right)$$

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

$$\log_6 \left(\frac{11}{5}\right)$$

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

$$\log_9 \left(\frac{10}{3}\right)$$

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

$$\log_{14} \left(\frac{2}{19}\right)$$

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

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

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

### Answers

<p><i>Example:</i> <math>\log_2 \left(\frac{4}{3}\right)</math></p> <p><math>\log_2 \left(\frac{4}{3}\right) = \log_2 4 - \log_2 3</math></p> <p>Answer: <b><math>\log_2 4 - \log_2 3</math></b></p>	<p><math>\log_4 \left(\frac{8}{7}\right)</math></p> <p>Answer: <b><math>\log_4 8 - \log_4 7</math></b></p>
<p><math>\log_6 \left(\frac{11}{5}\right)</math></p> <p>Answer: <b><math>\log_6 11 - \log_6 5</math></b></p>	<p><math>\log_{10} \left(\frac{2}{9}\right)</math></p> <p>Answer: <b><math>\log_{10} 2 - \log_{10} 9</math></b></p>
<p><math>\log_8 \left(\frac{4}{9}\right)</math></p> <p>Answer: <b><math>\log_8 4 - \log_8 9</math></b></p>	<p><math>\log_6 \left(\frac{11}{5}\right)</math></p> <p>Answer: <b><math>\log_6 11 - \log_6 5</math></b></p>
<p><math>\log_9 \left(\frac{10}{3}\right)</math></p> <p>Answer: <b><math>\log_9 10 - \log_9 3</math></b></p>	<p><math>\log_{14} \left(\frac{2}{19}\right)</math></p> <p>Answer: <b><math>\log_{14} 2 - \log_{14} 19</math></b></p>