

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

Date \_\_\_\_\_

**Topic: Express as a Single Logarithm- Worksheet 1**

**1**  $\log 4 + \log 5$

**2**  $\log 3 - \log 1.8$

**3**  $\log 12 + \log 7 + \log 14 - \log 24$

**4**  $12 \log 4 + \frac{1}{5} \log 321$

**5**  $\log 15 - \log 3 + \frac{1}{5} \log 24 + \frac{1}{5} \log 345$

**6**  $\frac{1}{5} \log 342 + \log 5 - \log 4 + \frac{1}{3} \log 126$

**7**  $\log 4 + \frac{1}{5} \log 324$

**8**  $5 \log 4 - 3 \log 8 + \frac{1}{4} \log 125 + \frac{1}{5} \log 143$

**9**  $\log 8 - \frac{1}{3} \log 312 - \log 2$

**10**  $\log 14 - \frac{1}{3} \log 150$



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**Topic: Express as a Single Logarithm- Worksheet 1 ANSWERS**

<b>1</b>	<b><math>\log 20</math></b>
<b>2</b>	<b><math>\log 1.67</math></b>
<b>3</b>	<b><math>\log 49</math></b>
<b>4</b>	<b><math>\log 53213387</math></b>
<b>5</b>	<b><math>\log 30.38</math></b>
<b>6</b>	<b><math>\log 20.13</math></b>
<b>7</b>	<b><math>\log 12.71</math></b>
<b>8</b>	<b><math>\log 18</math></b>
<b>9</b>	<b><math>\log 0.59</math></b>
<b>10</b>	<b><math>\log 2.63</math></b>



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**Topic: Express as a Single Logarithm- Worksheet 2**

**1**  $\log 6 + \log 2$

**2**  $\log 5 - \log 3.2$

**3**  $\log 9 + \log 5 + \log 11 - \log 21$

**4**  $16 \log 3 + 1/5 \log 231$

**5**  $\log 18 - \log 2 + 1/5 \log 17 + 1/2 \log 234$

**6**  $1/4 \log 364 + \log 7 - \log 3 + 1/5 \log 175$

**7**  $\log 5 + 1/4 \log 426$

**8**  $7 \log 3 - 4 \log 9 + 1/4 \log 164 + 1/2 \log 123$

**9**  $\log 7 - 1/5 \log 364 - \log 3$

**10**  $\log 15 - 1/5 \log 145$



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**Topic: Express as a Single Logarithm- Worksheet 2 ANSWERS**

<b>1</b>	<b>log 12</b>
<b>2</b>	<b>log 1.56</b>
<b>3</b>	<b>log 23.57</b>
<b>4</b>	<b>log 127838737</b>
<b>5</b>	<b>log 242.63</b>
<b>6</b>	<b>log 28.63</b>
<b>7</b>	<b>log 22.72</b>
<b>8</b>	<b>log 13.23</b>
<b>9</b>	<b>log 0.72</b>
<b>10</b>	<b>log 5.54</b>



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**Topic: Express as a Single Logarithm- Worksheet 3**

**1**  $\log 3 + \log 5$

**2**  $\log 4 - \log 2.4$

**3**  $\log 8 + \log 3 + \log 13 - \log 19$

**4**  $13 \log 5 + 1/4 \log 256$

**5**  $\log 11 - \log 4 + 1/2 \log 14 + 1/3 \log 534$

**6**  $1/3 \log 462 + \log 9 - \log 6 + 1/4 \log 246$

**7**  $\log 8 + 1/5 \log 372$

**8**  $5 \log 8 - 7 \log 2 + 1/5 \log 212 + 1/3 \log 105$

**9**  $\log 9 - 1/7 \log 217 - \log 2$

**10**  $\log 24 - 1/3 \log 108$



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**Topic: Express as a Single Logarithm- Worksheet 3 ANSWERS**

<b>1</b>	<b><math>\log 15</math></b>
<b>2</b>	<b><math>\log 1.67</math></b>
<b>3</b>	<b><math>\log 16.42</math></b>
<b>4</b>	<b><math>\log 4882812500</math></b>
<b>5</b>	<b><math>\log 83.48</math></b>
<b>6</b>	<b><math>\log 45.92</math></b>
<b>7</b>	<b><math>\log 26.13</math></b>
<b>8</b>	<b><math>\log 3525.63</math></b>
<b>9</b>	<b><math>\log 2.09</math></b>
<b>10</b>	<b><math>\log 5.04</math></b>



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**Topic: Express as a Single Logarithm- Worksheet 4**

**1**  $\log 7 + \log 3$

**2**  $\log 2 - \log 1.5$

**3**  $\log 12 + \log 7 + \log 9 - \log 24$

**4**  $11 \log 2 + \frac{1}{4} \log 325$

**5**  $\log 16 - \log 8 + \frac{1}{3} \log 18 + \frac{1}{2} \log 121$

**6**  $\frac{1}{7} \log 427 + \log 8 - \log 4 + \frac{1}{3} \log 243$

**7**  $\log 7 + \frac{1}{3} \log 522$

**8**  $4 \log 5 - 3 \log 7 + \frac{1}{3} \log 246 + \frac{1}{2} \log 132$

**9**  $\log 9 - \frac{1}{4} \log 238 - \log 5$

**10**  $\log 28 - \frac{1}{3} \log 126$



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**Topic: Express as a Single Logarithm- Worksheet 4 ANSWERS**

<b>1</b>	<b><math>\log 21</math></b>
<b>2</b>	<b><math>\log 1.33</math></b>
<b>3</b>	<b><math>\log 31.50</math></b>
<b>4</b>	<b><math>\log 8695.62</math></b>
<b>5</b>	<b><math>\log 57.66</math></b>
<b>6</b>	<b><math>\log 29.65</math></b>
<b>7</b>	<b><math>\log 56.36</math></b>
<b>8</b>	<b><math>\log 131.18</math></b>
<b>9</b>	<b><math>\log 0.46</math></b>
<b>10</b>	<b><math>\log 5.59</math></b>





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**Topic: Express as a Single Logarithm- Worksheet 5**

**1**  $\log 2 + \log 4$

**2**  $\log 6 - \log 3.2$

**3**  $\log 17 + \log 3 + \log 4 - \log 28$

**4**  $13 \log 4 + 1/5 \log 256$

**5**  $\log 18 - \log 3 + 1/2 \log 22 + 1/3 \log 153$

**6**  $1/4 \log 364 + \log 7 - \log 5 + 1/5 \log 186$

**7**  $\log 7 + 1/3 \log 534$

**8**  $5 \log 3 - 7 \log 9 + 1/4 \log 168 + 1/3 \log 231$

**9**  $\log 8 - 1/5 \log 486 - \log 6$

**10**  $\log 24 - 1/7 \log 231$



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**Topic: Express as a Single Logarithm- Worksheet 5 ANSWERS**

<b>1</b>	<b><math>\log 8</math></b>
<b>2</b>	<b><math>\log 1.88</math></b>
<b>3</b>	<b><math>\log 7.29</math></b>
<b>4</b>	<b><math>\log 1252</math></b>
<b>5</b>	<b><math>\log 150.52</math></b>
<b>6</b>	<b><math>\log 17.39</math></b>
<b>7</b>	<b><math>\log 56.79</math></b>
<b>8</b>	<b><math>\log 0.01122</math></b>
<b>9</b>	<b><math>\log 0.39</math></b>
<b>10</b>	<b><math>\log 11.03</math></b>

