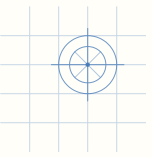


# Log laws — The product law

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

Date: \_\_\_\_\_



Write each sum as one logarithm.

①  $\log_5 2 + \log_5 8 = \log_5 \underline{16}$   
 $\log_5 m + \log_5 n = \log_5 (m \times n)$   
 $2 \times 8 = 16$   
 $= \log_5 16$

②  $\log_{10} 3 + \log_{10} 5 = \log_{10} \underline{\hspace{2cm}}$

③  $\log_5 10 + \log_5 10 = \log_5 \underline{\hspace{2cm}}$

④  $\log_3 9 + \log_3 11 = \log_3 \underline{\hspace{2cm}}$

⑤  $\log_3 5 + \log_3 12 = \log_3 \underline{\hspace{2cm}}$

⑥  $\log_2 3 + \log_2 6 = \log_2 \underline{\hspace{2cm}}$

⑦  $\log_{10} 5 + \log_{10} 6 = \log_{10} \underline{\hspace{2cm}}$

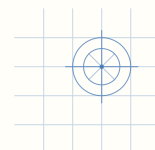
⑧  $\log_5 7 + \log_5 8 = \log_5 \underline{\hspace{2cm}}$

⑨  $\log_5 6 + \log_5 8 = \log_5 \underline{\hspace{2cm}}$

⑩  $\log_2 4 + \log_2 11 = \log_2 \underline{\hspace{2cm}}$



# Log laws · The product law — Answer key



1.  $\log_5 2 + \log_5 8 = \log_5 16$

2.  $\log_{10} 3 + \log_{10} 5 = \log_{10} 15$

3.  $\log_5 10 + \log_5 10 = \log_5 100$

4.  $\log_3 9 + \log_3 11 = \log_3 99$

5.  $\log_3 5 + \log_3 12 = \log_3 60$

6.  $\log_2 3 + \log_2 6 = \log_2 18$

7.  $\log_{10} 5 + \log_{10} 6 = \log_{10} 30$

8.  $\log_5 7 + \log_5 8 = \log_5 56$

9.  $\log_5 6 + \log_5 8 = \log_5 48$

10.  $\log_2 4 + \log_2 11 = \log_2 44$