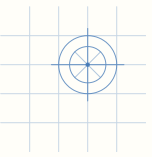


Log laws — The power law



Name: _____

Date: _____

Write each of these as one logarithm.

① $3 \log_{10} 3 = \log_{10} \underline{27}$
 $k \log_{10} m = \log_{10} (m^k)$
 $3^3 = 27$
 $= \log_{10} 27$

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

③ $2 \log_{10} 12 = \log_{10} \underline{\hspace{2cm}}$

④ $2 \log_{10} 4 = \log_{10} \underline{\hspace{2cm}}$

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

⑥ $2 \log_{10} 9 = \log_{10} \underline{\hspace{2cm}}$

⑦ $2 \log_3 2 = \log_3 \underline{\hspace{2cm}}$

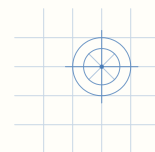
⑧ $2 \log_2 9 = \log_2 \underline{\hspace{2cm}}$

⑨ $4 \log_{10} 2 = \log_{10} \underline{\hspace{2cm}}$

⑩ $4 \log_{10} 3 = \log_{10} \underline{\hspace{2cm}}$



Log laws · The power law — Answer key



1. $3 \log_{10} 3 = \log_{10} 27$

2. $3 \log_5 2 = \log_5 8$

3. $2 \log_{10} 12 = \log_{10} 144$

4. $2 \log_{10} 4 = \log_{10} 16$

5. $2 \log_3 5 = \log_3 25$

6. $2 \log_{10} 9 = \log_{10} 81$

7. $2 \log_3 2 = \log_3 4$

8. $2 \log_2 9 = \log_2 81$

9. $4 \log_{10} 2 = \log_{10} 16$

10. $4 \log_{10} 3 = \log_{10} 81$