

1-3 Videos Guide

1-3a

- Graphs and limits of logarithmic functions

1-3b

- Properties of logarithms
 - $\log_b b^x = x$
 - $b^{\log_b x} = x$
 - $\log_b MN = \log_b M + \log_b N$
 - $\log_b \frac{M}{N} = \log_b M - \log_b N$
 - $\log_b M^r = r \log_b M$
- Change-of-base formula
 - $\log_b x = \frac{\log_a x}{\log_a b}$

1-3c

Exercises:

- Find the limit
 - $\lim_{x \rightarrow 2^-} \log_5(8x - x^4)$
 - $\lim_{x \rightarrow \infty} [\ln(2 + x) - \ln(1 + x)]$

1-3d

Exercise:

- On what interval is the curve $y = 2e^x - e^{-3x}$ concave downward?