

TUTORIAL 2

1. State the base and the power in each of the following expressions:
a) $7^3=343$ b) $14^4=38416$
2. Express $7^4=2401$ in logarithmic form.
3. Using a calculator find a) $\log_{10}2.9$ b) $\ln 5.73$.
4. Use the laws of logarithms to simplify each of the following to a single logarithm:
a) $\log 8+\log 5$ b) $\log 4 - \log 3$
c) $5\log 7 + 2\log 2$ d) $3\log 5 - 5\log 4$
5. Simplify each of the following to a single logarithm:
a) $\log 5t + \log 2t$
b) $\log t - \log t^3$
c) $5\log t + 2\log 4t$
6. Find
a) $\log_2 4.8$ b) $\log_4 17$ c) $\log_3 0.5$
7. Simplify the following exponential expressions:
a) $e^{5x}e^{2x}$ b) $e^x(3e^{2x}-7e^{2x})$
c) $e^{-t}e^{3t}e^{5t}$ d) $(e^{3t})^2$
8. If $e^{3x}=4.2$, find x .
9. Solve the following equations:
a) $3(14)^x=21$, b) $\log_{10} 2t=1.4$, c) $\ln(3x-1)=0.75$