Common Logarithms

Q) What is the common logarithm of a number?

A) The common logarithm of a number is the exponent (power) to which 10 must be raised to produce that number.

\[ \log_{10} 100 = 2 \quad \text{since} \quad 10^2 = 100 \]

Recall: \[ \log_{10} 100 = \log_{10} 100 \]

ex) Estimate \[ \log_{10} 613 \]

\[
\begin{align*}
10^1 &= 10 \\
10^2 &= 100 \\
10^{2.???} &= 613 \\
10^3 &= 1000 \\
\end{align*}
\]

Using a calculator: \[ \log_{10} 613 \approx 2.78746 \]

That is to say: \[ 10^{2.78746} \approx 613 \]