Defn Let \( y = f(x) \) be a function. A **secant line** of the graph \( y = f(x) \) is a line connecting two points on that graph (i.e. \((a, f(a)) \& (b, f(b))\)).

**Defn** The **Average Rate of Change** (ARC) of function \( y = f(x) \) on interval \([a, b]\) is

\[
ARC = \frac{f(b) - f(a)}{b - a}
\]

**Defn** The **Difference Quotient** (DQ) of a function \( f(x) \) is

\[
D.Q. = \frac{f(x+h) - f(x)}{h}
\]

**Notes:**
1) The difference quotient is the slope of the secant line (ARC) with \( a = x \& b = x+h \).
2) Difference quotients are the starting point in defining the derivative in Calculus I.