Description The properties of limits are intuitive but important for simplifying problems.

Setup

$$\lim_{x \to c} f(x) = L \qquad \qquad \lim_{x \to c} g(x) = M$$

Limits Properties

Sum Property
$$\lim_{x \to c} (f(x) + g(x)) = L + M$$

Difference Property
$$\lim_{x\to c} (f(x) \times g(x)) = L - M$$

Constant Multiple Property
$$\lim_{x\to c} (k \times f(x)) = k \times L$$

Quotient Property
$$\frac{\lim_{x\to c}(f(x))}{\lim_{x\to c}(g(x))} = L \div K$$

Exponent Property
$$\lim_{x \to c} (f(x))^{\frac{r}{s}} = L^{\frac{r}{s}}$$