TRIGONOMETRI

1. Rumus Jumlah dan Selisih Sudut

- $sin(A \pm B) = sin\ A\ cos\ B \pm cos\ A\ sin\ B$
- $cos(A \pm B) = cos\ A\ cos\ B \mp sin\ A\ sin\ B$
- $tan(A \pm B) = \frac{tan\ A \pm tan\ B}{1 \mp tan\ A\ tan\ B}$

2. Rumus Sudut Rangkap

- $sin(2A) = 2\ sin\ A\ cos\ A$
- $cos(2A) = cos^2 A - sin^2 A = 2\ cos^2 A - 1 = 1 - 2\ sin^2 A$
- $tan(2A) = \frac{2\ tan\ A}{1 - tan^2 A}$

3. Rumus Sudut Setengah

- $sin(\frac{A}{2}) = \pm\sqrt{\frac{1 - cos\ A}{2}}$
- $cos(\frac{A}{2}) = \pm\sqrt{\frac{1 + cos\ A}{2}}$
- $tan(\frac{A}{2}) = \frac{sin\ A}{1 + cos\ A} = \frac{1 - cos\ A}{sin\ A}$

4. Rumus Perkalian ke Penjumlahan

- $2\ sin\ A\ cos\ B = sin(A + B) + sin(A - B)$
- $2\ cos\ A\ cos\ B = cos(A + B) + cos(A - B)$
- $-2\ sin\ A\ sin\ B = cos(A + B) - cos(A - B)$

5. Rumus Penjumlahan ke Perkalian

- $sin\ A + sin\ B = 2\ sin(\frac{A+B}{2})cos(\frac{A-B}{2})$
- $sin\ A - sin\ B = 2\ cos(\frac{A+B}{2})sin(\frac{A-B}{2})$
- $cos\ A + cos\ B = 2\ cos(\frac{A+B}{2})cos(\frac{A-B}{2})$
- $cos\ A - cos\ B = -2\ sin(\frac{A+B}{2})sin(\frac{A-B}{2})$

LIMIT FUNGSI

Limit Fungsi

1. Limit di Tak Hingga

- Untuk $lim_{x \to \infty} \frac{ax^m + \ldots}{px^n + \ldots}$
  - Jika $m > n$, hasil = ∞
  - Jika $m = n$, hasil = $\frac{a}{p}$
  - Jika $m < n$, hasil = 0
- Untuk $lim_{x \to \infty}(\sqrt{ax^2 + bx + c} - \sqrt{px^2 + qx + r})$
  - Jika $a > p$, hasil = ∞
  - Jika $a < p$, hasil = $-\infty$
  - Jika $a = p$, hasil = $\frac{b-q}{2\sqrt{a}}$

2. Limit Trigonometri Dasar (untuk $x \to 0$)

- $lim_{x \to 0} \frac{sin\ ax}{bx} = \frac{a}{b}$
- $lim_{x \to 0} \frac{tan\ ax}{bx} = \frac{a}{b}$
- $lim_{x \to 0} \frac{sin\ ax}{tan\ bx} = \frac{a}{b}$