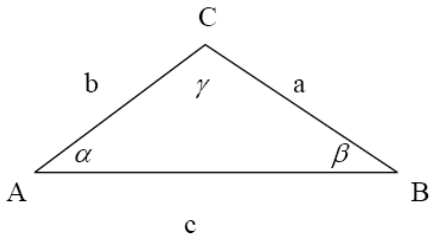
Trigonometri

Aturan Sinus dan Cosinus



Pada segitiga ABC berlaku :

aturan sinus

$$\frac{a}{\sin\alpha} = \frac{b}{\sin\beta} = \frac{c}{\sin\gamma}$$

Aturan cosinus

1. $a^2 = b^2 + c^2 - 2bc\cos\alpha$
2. $b^2 = a^2 + c^2 - 2ac\cos\beta$
3. $c^2 = a^2 + b^2 - 2ab\cos\gamma$

Luas segitiga $= \frac{1}{2}\,ab\sin\gamma$

$= \frac{1}{2}\,ac\sin\beta$

$= \frac{1}{2}\,bc\sin\alpha$

Nilai Maksimum dan Minimum

1. Jika $y = k\cos(x + n\pi)$ dengan $k > 0$ maka

   a. maksimum jika $y = k$ dimana $\cos(x + n\pi) = 1$ sehingga $(x + n\pi) = 0$
   b. minimum jika $y = -k$ dimana $\cos(x + n\pi) = -1$ sehingga $(x + n\pi) = \pi$

2. Jika $y = k\sin(x + n\pi)$ dengan $k > 0$ maka

   a. maksimum jika $y = k$ dimana $\sin(x + n\pi) = 1$ sehingga $(x + n\pi) = \frac{\pi}{2}$

   b. minimum jika $y = -k$ dimana $\sin(x + n\pi) = -1$ sehingga $(x + n\pi) = \frac{3\pi}{2}$