RUMUS – RUMUS TRIGONOMETRI

Nama :

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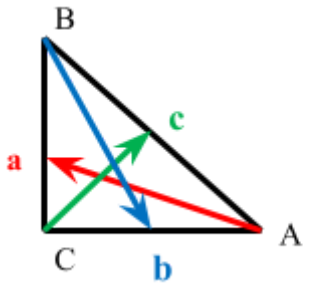
Nilai Sudut Istimewa Trigonometri Kuadran 1											
	0°	30°	45°	60°	90°		0°	30°	45°	60°	90°
$\sin\theta$	0	$\frac{1}{2}$	$\frac{1}{2}\sqrt{2}$	$\frac{1}{2}\sqrt{3}$	1	$\csc\theta$	∞	2	$\sqrt{2}$	$\frac{2}{3}\sqrt{2}$	1
$\cos\theta$	1	$\frac{1}{2}\sqrt{3}$	$\frac{1}{2}\sqrt{2}$	$\frac{1}{2}$	0	$\sec\theta$	1	$\frac{2}{3}\sqrt{2}$	$\sqrt{2}$	2	∞
$\tan\theta$	0	$\frac{1}{3}\sqrt{3}$	1	$\sqrt{3}$	∞	$\cot\theta$	∞	$\sqrt{3}$	1	$\frac{1}{3}\sqrt{3}$	0

Perbandingan Trigonometri	
$Sin\ \theta = \frac{Depan}{Miring}$	$Cosec\ \theta = \frac{1}{Sin\ \theta}$
$Cos\ \theta = \frac{Samping}{Miring}$	$Secan\ \theta = \frac{1}{Cos\ \theta}$
$Tan\ \theta = \frac{Depan}{Samping}$	$Cotan\ \theta = \frac{1}{Tan\ \theta}$

Identitas Trigonometri	
$Tan\ \theta = \frac{Sin\ \theta}{Cos\ \theta}$	$+= 1$
	$+= sec^2\theta$
$Cot\ \theta = \frac{Cos\ \theta}{Sin\ \theta}$	$+= cosec^2\theta$

Luas segitiga



Aturan Cosinus

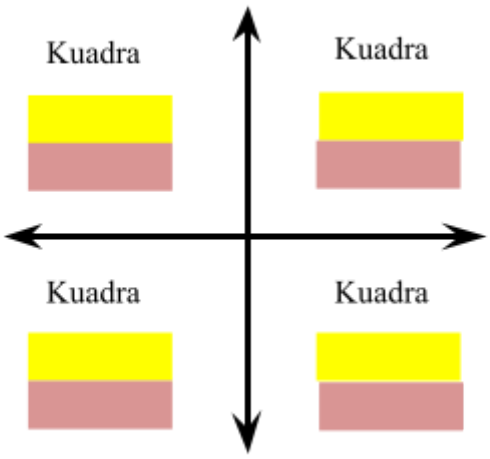
$$a^2 = b^2 + c^2 - 2bc\ Cos\ A$$
$$b^2 = a^2 + c^2 - 2ac\ Cos\ B$$
$$c^2 = a^2 + b^2 - 2ab\ Cos\ C$$

Aturan Sinus

$$\frac{a}{Sin\ A} = \frac{b}{Sin\ B} = \frac{c}{Sin\ C}$$

Identitas Jumlah dan Selisih Dua Sudut

$sin\ \alpha + sin\ \beta = 2sin\left(\frac{\alpha+\beta}{2}\right) cos\left(\frac{\alpha-\beta}{2}\right)$	$Sin(\alpha + \beta) = \sin sin\ \alpha \cos cos\ \beta + \cos cos\ \alpha$ $Sin(\alpha - \beta) = \sin sin\ \alpha \cos cos\ \beta - \cos cos\ \alpha$
$sin\ \alpha - sin\ \beta = 2cos\left(\frac{\alpha+\beta}{2}\right) sin\left(\frac{\alpha-\beta}{2}\right)$	$cos(\alpha + \beta) = \cos cos\ \alpha \cos cos\ \beta - \cos cos\ \alpha$ $Cos(\alpha - \beta) = \cos cos\ \alpha \cos cos\ \beta + \sin sin\ \alpha$
$cos\ \alpha + cos\ \beta = 2cos\left(\frac{\alpha+\beta}{2}\right) cos\left(\frac{\alpha-\beta}{2}\right)$	$tan(\alpha + \beta) = \frac{\tan tan\ \alpha\beta}{1-\tan tan\ \alpha \tan tan\ \beta}$ $tan(\alpha - \beta) = \frac{\tan tan\ \alpha\beta}{1+\tan tan\ \alpha \tan tan\ \beta}$
$cos\ \alpha - cos\ \beta =- 2sin\left(\frac{\alpha+\beta}{2}\right) sin\left(\frac{\alpha+\beta}{2}\right)$	

Identitas Perkalian Sinus dan Cosinus	Identitas Sudut 2 Rangkap/Ganda
$\sin sin\ \alpha \bullet \sin sin\ \beta =- \frac{1}{2}[cos(\alpha + \beta) - cos(\alpha$ $\sin sin\ \alpha \bullet \cos cos\ \beta = \frac{1}{2}[sin(\alpha + \beta) + sin(\alpha$ $cos\ \alpha \cdot cos\ \beta = \frac{1}{2}[cos(\alpha + \beta) + cos(\alpha - \beta)]$ $cos\ \alpha \cdot sin\ \beta = \frac{1}{2}[sin(\alpha + \beta) - sin(\alpha - \beta)]$	$\sin sin\ 2\alpha = 2 \sin sin\ \alpha \cos cos\ \alpha$ $\cos cos\ 2\alpha = \alpha - \alpha$ $= 1 - 2\ sin^2\alpha$

	$= 2\,cos^2\alpha - 1$
	$\tan tan\ 2\alpha = \frac{2\tan tan\ \alpha}{1-\alpha}$
Identitas Setengah Sudut	**Identitas Sudut 3 Rangkap/Ganda**
$sin\frac{1}{2}\alpha = \pm\sqrt{\frac{1-\cos cos\ \alpha}{2}}$ $sin\frac{1}{2}\alpha = \pm\sqrt{\frac{1-\cos cos\ \alpha}{2}}$ $tan\frac{1}{2}\alpha = \pm\sqrt{\frac{1-\cos cos\ \alpha}{1+\cos cos\ \alpha}}$ $= \frac{\sin sin\ \alpha}{1+\cos cos\ \alpha}$ $= \frac{1-\cos cos\ \alpha}{\sin sin\ \alpha}$	$\sin sin\ 3\alpha = 3\sin sin\ \alpha\alpha$ $\cos cos\ 3\alpha = 4\alpha - \alpha$ $\tan tan\ 3\alpha = \frac{3\tan tan\ \alpha-\alpha}{1-3\alpha}$
Identitas Sudut Kuadrat	**Identitas Kofungsi**
$\alpha = \frac{1-cos(2\alpha)}{2}$	$\sin sin\ \alpha = \cos cos\ (90° - \alpha)$ $\cos cos\ \alpha = \sin sin\ (90° - \alpha)$
$\alpha = \frac{1+\cos cos\ (2\alpha)}{2}$	$\tan tan\ \alpha = \cot cot\ (90° - \alpha)$ $\cot cot\ \alpha = \tan tan\ (90° - \alpha)$
$\alpha = \frac{1-cos(2\alpha)}{1+\cos cos\ (2\alpha)}$	$\sec sec\ \alpha = \csc csc\ (90° - \alpha)$ $\csc csc\ \alpha = \sec sec\ (90° - \alpha)$
Sudut Berelasi