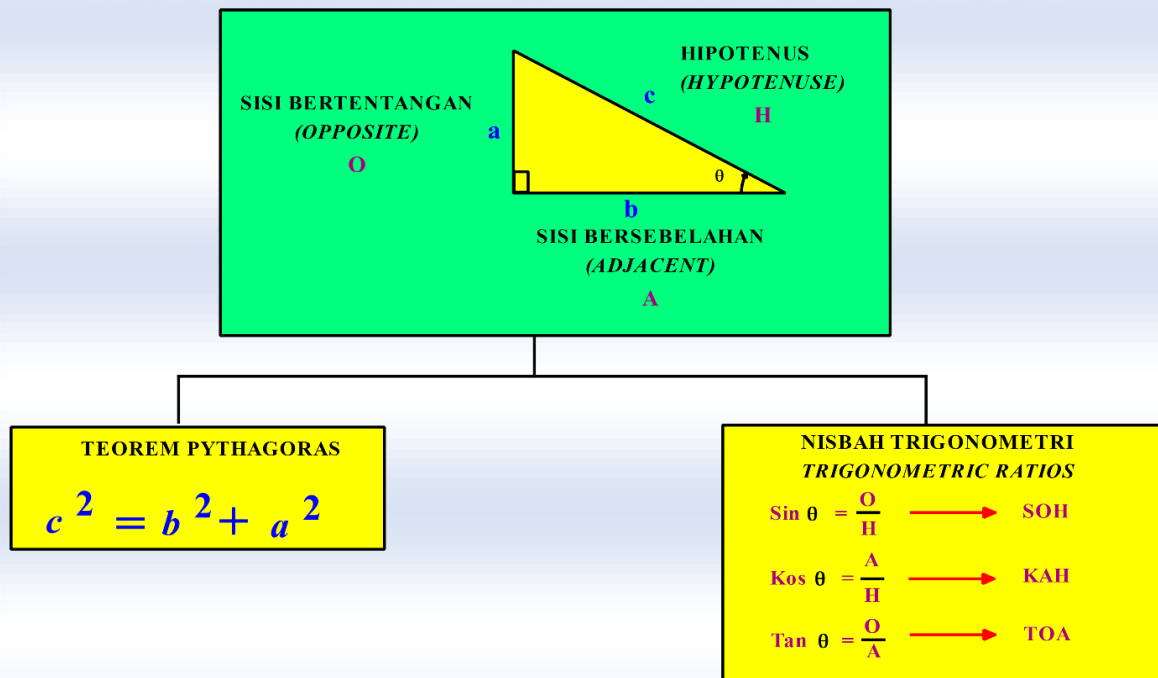


15. Teorem Pithagoras Dan Trigonometri

Pythagoras Theorem and Trigonometric

Tingkatan Satu	Bab 13	: Teorem Pithagoras / <i>Pythagoras Theorem</i>
Tingkatan Tiga	Bab 5	: Nisbah Trigonometri / <i>Trigonometric Ratios</i>
Tingkatan Lima	Bab 6	: Nisbah Dan Graf Fungsi Trigonometri / <i>Ratios and Graphs of Trigonometric Functions</i>

NOTA RINGKAS



NISBAH DAN GRAF FUNGSI TRIGONOMETRI

RATIOS AND GRAPHS OF TRIGONOMETRIC FUNCTIONS

1. Diberi P ialah titik yang berada pada bulatan unit dan θ ialah sudut yang terbentuk dari paksi-x yang positif mengikut arah lawan jam.

It is given P is a point lies on the unit circle and θ is the angle formed from the x-axis positive in an anticlockwise direction.

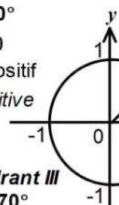
Sukuan II / Quadrant II

$$90^\circ < \theta < 180^\circ$$

$$\alpha = 180^\circ - \theta$$

Hanya Sinus positif

Only Sine Positive



Sukuan I / Quadrant I

$$0^\circ < \theta < 90^\circ$$

$$\alpha = \theta$$

Semua positif

All Positive

Sukuan III / Quadrant III

$$180^\circ < \theta < 270^\circ$$

$$\alpha = \theta - 180^\circ$$

Hanya Tangen positif

Only Tangent Positive

Sukuan IV / Quadrant IV

$$270^\circ < \theta < 360^\circ$$

$$\alpha = 360^\circ - \theta$$

Hanya Kosinus positif

Only Cosine Positive

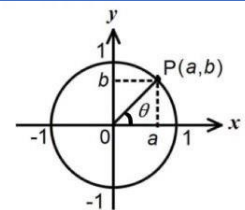
2. $\sin \theta = \text{koordinat-}y = b$

$$\sin \theta = \frac{y\text{-coordinate}}{1} = b$$

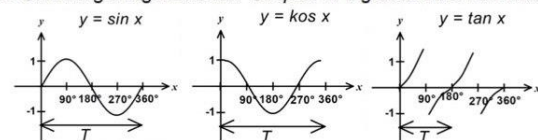
$$\cos \theta = \frac{x\text{-coordinate}}{1} = a$$

$$\tan \theta = \frac{\text{koordinat-}y}{\text{koordinat-}x} = \frac{b}{a}$$

$$\tan \theta = \frac{y\text{-coordinate}}{x\text{-coordinate}} = \frac{b}{a}$$



3. Graf fungsi trigonometri / *Graphs of trigonometric functions* :



Amplitud/Amplitude: Nilai maksimum - Nilai minimum

$$\frac{\text{Maximum value} - \text{Minimum value}}{2}$$

Tempoh/Periods, $T = \frac{360^\circ}{b}$ (Sin & Kos)

$$T = \frac{180^\circ}{b} \text{ (Tan)}$$