



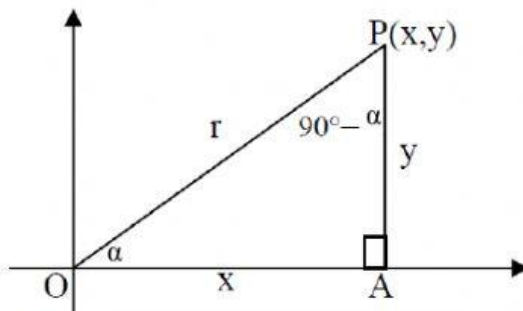
Nama : _____
Kelas : _____

LKPD Trigonometri Sudut Berelasi-Part 3



Ayo Mengamati

Perhatikan gambar berikut ini!



Ayo Mengumpulkan Informasi

Definisi 1

$$\sin \alpha = \frac{y}{r}$$

$$\cos \alpha = \frac{x}{r}$$

$$\tan \alpha = \frac{y}{x}$$

$$\cot \alpha = \frac{x}{y}$$

$$\sec \alpha = \frac{r}{x}$$

$$\csc \alpha = \frac{r}{y}$$

By Pungky Rahmawati, S.Pd

Berdasarkan gambar 1 dan definisi 1, tentukan kesimpulan dari nilai trigonometri pada masing-masing kuadran:

Nilai Trigonometri pada Kuadran I

$$\begin{aligned}\sin(90^\circ - \alpha) &= \frac{x}{r} = \cos \alpha & \cot(90^\circ - \alpha) &= \frac{y}{x} = \tan \alpha \\ \cos(90^\circ - \alpha) &= \frac{y}{r} = \sin \alpha & \sec(90^\circ - \alpha) &= \frac{r}{x} = \csc \alpha \\ \tan(90^\circ - \alpha) &= \frac{y}{x} = \cot \alpha & \csc(90^\circ - \alpha) &= \frac{r}{y} = \sec \alpha\end{aligned}$$

Nilai Trigonometri pada Kuadran II

$\sin(90^\circ + a) = \cos a$	$\cot(90^\circ + a) = -\tan a$
$\cos(90^\circ + a) = -\sin a$	$\sec(90^\circ + a) = -\csc a$
$\tan(90^\circ + a) = \cot a$	$\csc(90^\circ + a) = \sec a$

Nilai trigonometri pada kuadran III

$\sin(270^\circ - a) = -\cos a$	$\cot(270^\circ - a) = \tan a$
$\cos(270^\circ - a) = \sin a$	$\sec(270^\circ - a) = \csc a$
$\tan(270^\circ - a) = -\cot a$	$\csc(270^\circ - a) = -\sec a$

Nilai trigonometri pada kuadran IV

$\sin(270^\circ + a) = -\cos a$	$\cot(270^\circ + a) = -\tan a$
$\cos(270^\circ + a) = \sin a$	$\sec(270^\circ + a) = \csc a$
$\tan(270^\circ + a) = \cot a$	$\csc(270^\circ + a) = -\sec a$

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