E-LKPD

MATEMATIKA WAJIB

KELAS X

I WAYAN DARMA SANTIKA, S.PD

Nama _____

kelas _____

No. Abs _____

SMA NEGERI 1 BEBANDEM

DINAS PENDIDIKAN PROVINSI BALI

2021

A. MATERI

Trigonometri

Silakan pelajari materi berikut untuk memahami materi Trigonometri

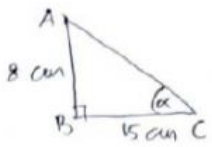
B. CONTOH SOAL

Contoh soal

* Diketahui segitiga ABC siku-siku di B. Jika AB = 8 cm, dan BC = 15 cm. Hitunglah nilai nilai sin α, cos α, tan α, sec α, cosec α dan cotan α, dengan α adalah sudut antara BC dan AC

Jawab

Diketahui:

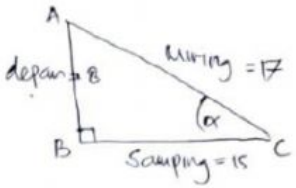


Dit: sin α = ... ? cosec α = ... ?
cos α = ... ? sec α = ... ?
tan α = ... ? cotan α = ... ?

Penyelesaian

Pertama tentukan panjang AC

$$AC = \sqrt{(AB)^2 + (BC)^2}$$
$$= \sqrt{8^2 + 15^2}$$
$$= \sqrt{64 + 225}$$
$$= \sqrt{289}$$
$$= 17$$



* $\sin \alpha = \frac{\text{Depan}}{\text{Miring}} = \frac{8}{17}$
* $\text{cosec}\, \alpha = \frac{\text{Miring}}{\text{depan}} = \frac{17}{8}$
* $\cos \alpha = \frac{\text{Samping}}{\text{Miring}} = \frac{15}{17}$
* $\sec \alpha = \frac{\text{Miring}}{\text{samping}} = \frac{17}{15}$
* $\tan \alpha = \frac{\text{Depan}}{\text{Samping}} = \frac{8}{15}$
* $\text{cotan}\, \alpha = \frac{\text{Samping}}{\text{depan}} = \frac{15}{8}$

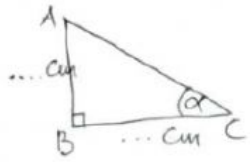
C. LATIHAN SOAL

Latihan Soal

* Diketahui segitiga ABC siku-siku di B. jika AB = 7 cm dan BC = 24 cm. Hitunglah nilai - nilai sin α, cos α, tan α, sec α cosec α dan cotan α, dengan α adalah sudut antara BC dan AC

Jawab

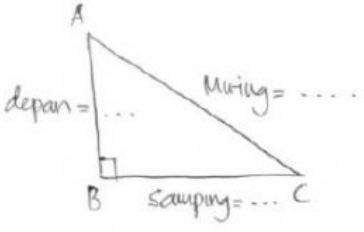
Diketahui



Dit * sin α = ...? cosec α = ...?
* cos α = ...? sec α = ...?
* tan α = ...? cotan α = ...?

penyelesaian

$$AC = \sqrt{(\ldots)^2 + (\ldots)^2}$$
$$= \sqrt{(\ldots)^2 + (\ldots)^2}$$
$$= \sqrt{\ldots + \ldots}$$
$$= \sqrt{\ldots}$$
$$= \ldots$$



* $\sin \alpha = \frac{\text{Depan}}{\text{Miring}} = \frac{\ldots}{\ldots}$

* $\cos \alpha = \frac{\text{Samping}}{\text{Miring}} = \frac{\ldots}{\ldots}$

* $\tan \alpha = \frac{\text{Depan}}{\text{Samping}} = \frac{\ldots}{\ldots}$

* $\text{cosec } \alpha = \frac{\text{Miring}}{\text{depan}} = \frac{\ldots}{\ldots}$

* $\sec \alpha = \frac{\text{Miring}}{\text{Samping}} = \frac{\ldots}{\ldots}$

* $\text{cotan } \alpha = \frac{\text{Samping}}{\text{depan}} = \frac{\ldots}{\ldots}$