

MISI KE - 2



B. MENENTUKAN TURUNAN DASAR FUNGSI COSINUS.

Dengan cara yang sama, Berdasarkan definisi turunan dengan menggunakan rumus limit fungsi, proses delta (d) dan rumus selisih fungsi cosinus diperoleh bahwa,

$$y = \cos(x)$$

$$y + \Delta y = \cos(x + h)$$

$$\Delta y = \cos(x + h) - \dots\dots\dots$$

$$\Delta y = \dots\dots\dots$$

$$\frac{\Delta y}{\Delta x} = \frac{\dots\dots\dots}{\dots\dots}$$

, Gunakan Rumus Pengurangan Cosinus

, Bagi kedua Ruas dengan "h"

Drag and drop pada bagian disebelah ini

$$-2 \cos\left(\frac{1}{2}(2x + h)\right)$$

$$h$$

$$h$$

$$-2 \cos\left(\frac{1}{2}(2x + h)\right)$$

$$-2 \sin\left(\frac{1}{2}(2x + h)\right)$$

$$\cos(x)$$

$$-2 \sin\left(\frac{1}{2}(2x + h)\right)$$

$$\sin\left(\frac{1}{2}h\right)$$

$$\sin\left(\frac{1}{2}h\right)$$

$$\cos\left(\frac{1}{2}h\right)$$

Berdasarkan definisi Turunan $y' = \frac{dy}{dx} = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$

$$y' = \frac{dy}{dx} = \lim_{h \rightarrow 0} \left[\frac{\dots\dots\dots}{h} \right]$$

$$y' = \frac{dy}{dx} = -2 \cdot \lim_{h \rightarrow 0} \left[\dots\dots\dots \right] \lim_{h \rightarrow 0} \left[\frac{\dots\dots\dots}{h} \right], \text{ Definisi } \lim_{h \rightarrow 0} \frac{\sin(h)}{h}$$

$$y' = \frac{dy}{dx} = -2 \cdot \lim_{h \rightarrow 0} \left[\dots\dots\dots \right] \left(\dots\dots \right)$$

$$y' = \frac{dy}{dx} = - \lim_{h \rightarrow 0} \left[\sin\left(\dots\dots\dots \right) \right]$$

, Tentukan nilai limit dengan substitusi nilai h

$$y' = \frac{dy}{dx} = - \lim_{h \rightarrow 0} \left[\sin\left(\dots\dots\dots \right) \right]$$

$$y' = \dots\dots\dots$$

Drag and drop pada bagian disebelah ini

$$\left(\frac{1}{2}\right) \cos\left(\frac{1}{2}(2x + h)\right) \cos\left(\frac{1}{2}(2x + h)\right) \sin\left(\frac{1}{2}(2x + h)\right)$$

$$\cos\left(\frac{1}{2}h\right)$$

$$\cos(x)$$

$$\cos\left(\frac{1}{2}(2x + h)\right)$$

$$\cos\left(\frac{1}{2}(2x)\right)$$

$$\sin(x)$$

$$\left(\frac{2}{1}\right) \sin\left(\frac{1}{2}(2x + h)\right) \sin\left(\frac{1}{2}(2x + h)\right) \sin\left(\frac{1}{2}(2x + h)\right)$$

$$\sin\left(\frac{1}{2}h\right)$$

$$\sin\left(\frac{1}{2}(2x)\right)$$

$$\sin\left(\frac{1}{2}h\right)$$