

UBAHAN

► Ubahan Langsung

$$y \uparrow \quad u \uparrow ; \quad y \downarrow \quad u \downarrow$$

$$y \propto u$$

Generally:-

$$y \propto u^n$$

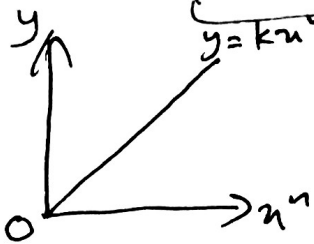
$k = \text{pemalar}$

$$y = k u^n$$

di mana

$$n = 1, 2, 3, \frac{1}{2}, \frac{1}{3}$$

$$y = k u^n \quad [y = m u]$$



$$k = \frac{y}{u^n}$$

► ubahan Tercantum

$$y \propto u^m \quad z^n$$

$$y = k u^m z^n$$

$$\text{dgn } m = 1, 2, 3, \frac{1}{2}, \frac{1}{3}$$

$$n = 1, 2, 3, \frac{1}{2}, \frac{1}{3}$$

dan $k = \text{pemalar}$.

Contoh:-

$$T \propto \sqrt{L} \quad \therefore T = k \sqrt{L}$$

$$k = \frac{T}{\sqrt{L}}$$

Diberi $T = 3$;

$$L = 225$$

$$\text{So, } k = \frac{3}{\sqrt{225}} = 0.2$$

$$\therefore T = 0.2 \sqrt{L}$$

Apabila $L = 121$

$$T = 0.2 \sqrt{121}$$

$$= 2.2$$

Bila $T = 3.4$

$$3.4 = 0.2 \sqrt{L}$$

$$\sqrt{L} = 3.4 / 0.2 = 17$$

$$L = 17^2 = 289.$$

► Ubahan Songsang

$$y \propto \frac{1}{u^n}$$

$$y = \frac{k}{u^n}$$

$$k = y u^n$$

► Ubahan Bergabung

$$y \propto u^m + y \propto \frac{1}{z^n} \rightarrow y \propto \frac{u^m}{z^n}$$

(Langsung) (Songsang)

$$w \propto u^m y^n + w \propto \frac{1}{z^p} \rightarrow w \propto \frac{u^m y^n}{z^p}$$

$$w = \frac{k u^m y^n}{z^p}$$

jadi

$$k = \frac{w z^p}{u^m y^n}$$

Tips:-

Problem Solving

$$R \propto \frac{L}{A} \Rightarrow$$

$$* RA \propto L *$$

maksudnya $RA \uparrow \quad L \uparrow$

$RA \downarrow \quad L \downarrow$

$$RA = kL$$

$$k = \frac{RA}{L}$$

katanya $RA = 27$ dan $k = 18$.

$$L = \frac{RA}{k} = \frac{27}{18} = 1.5$$