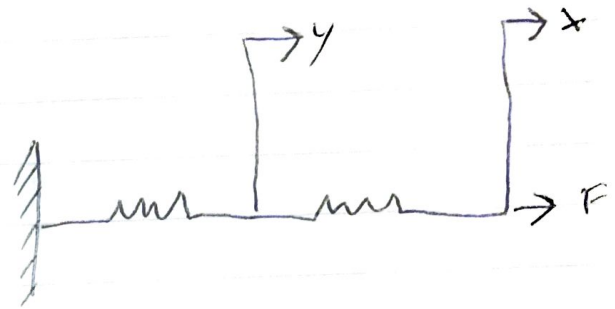
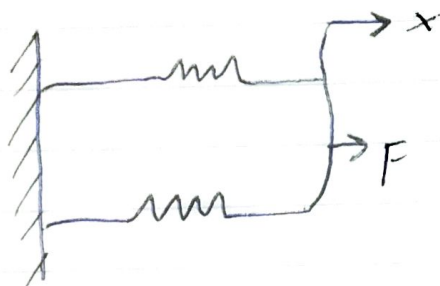


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Kelas = A

3.1



$$k_1 x + k_2 x = F = k_{eq} x$$

atau $k_{eq} = k_1 + k_2$

$$k_1 y = F, \quad k_2 (x - y) = F$$

Eliminasi y dari 2 Persamaan

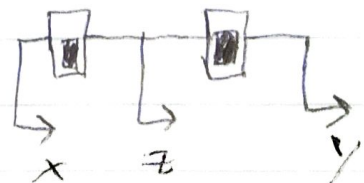
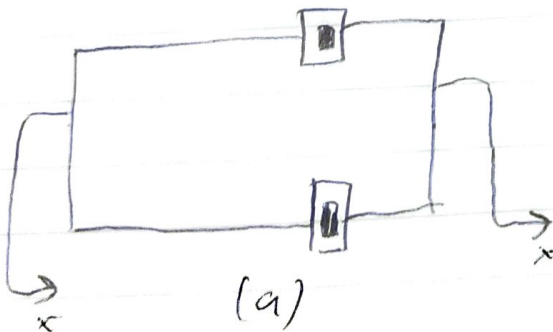
$$k_2 \left(x - \frac{F}{k_1} \right) = F$$

atau

$$k_2 x = F + \frac{k_2}{k_1} F = \frac{k_1 + k_2}{k_1} F$$

$$k_{eq} = \frac{F}{x} = \frac{k_1 k_2}{k_1 + k_2} = \frac{1}{\frac{1}{k_1} + \frac{1}{k_2}}$$

3.2



$$a.) \quad f = b_1(x - \bar{x}) + b_2(x - \bar{x}) = (b_1 + b_2)(y - \bar{y})$$

$$f = b_{eq}(y - \bar{y})$$

$$b_{eq} = b_1 + b_2$$

$$b.) \quad f = b_1(\bar{y} - \bar{x}) + b_2(\bar{y} - \bar{x})$$

$$(b_1 + b_2)\bar{y} = b_2\bar{y} + b_1\bar{x}$$

$$\bar{y} = \frac{1}{b_1 + b_2}(b_2\bar{y} + b_1\bar{x})$$

$$f = b_{eq}(y - \bar{y})$$

Subs Persamaan (2.2) ke (3.1)

$$f = b_2\left(\bar{y} - \bar{x}\right) = b_2\left[\bar{y} - \frac{1}{b_1 + b_2}(b_2\bar{y} + b_1\bar{x})\right]$$

$$= \frac{b_1 b_2}{b_1 + b_2}(\bar{y} - \bar{x})$$

$$f = b_{eq}(\bar{y} - \bar{x}) = \frac{b_1 b_2}{b_1 + b_2}(\bar{y} - \bar{x})$$

karena $b_{eq} = \frac{b_1 b_2}{b_1 + b_2} = \frac{1}{\frac{1}{b_1} + \frac{1}{b_2}}$