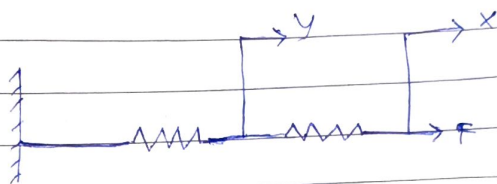
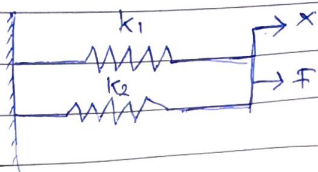


B

R.M. Hafiz

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3.1



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

$$\text{or } k_{eq} = k_1 + k_2$$

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

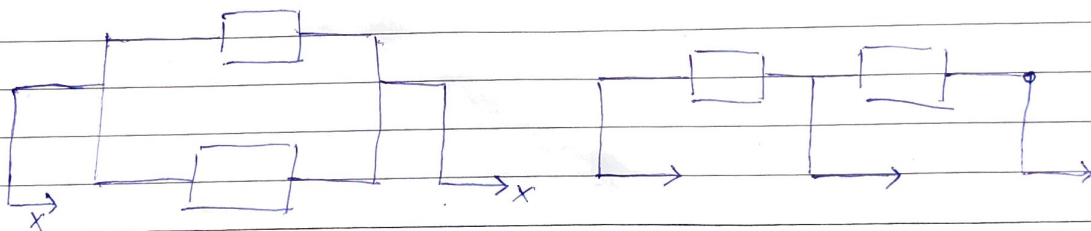
eliminasi of  $y$  dari 2 persamaan

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

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

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

3.2



$$a. f = b_1 (y - x) + b_2 (y - x) = (b_1 + b_2) (y - x)$$

$$F = k_{eq} (y - x)$$

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

$$b. f = b_1 (z - x) = b_2 (x - z) \quad (3.1)$$

$$(b_1 + b_2) z = b_2 x + b_1 x$$

$$z = \frac{1}{b_1 + b_2} (b_2 x + b_1 x) \quad (3.2)$$

$$f = k_{eq} (y - x)$$

Subs persamaan (3.2) ke (3.1)

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

Jaeli

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

karena

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