

N°	1	2	3	4	5	Σ
	10	10		10	2	32

Dynamna
Name

N2

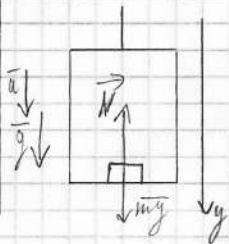
Dano: *Jawab:*

$m_1 = 120 \text{ kg}$

$m_2 = 90 \text{ kg}$

$g = 10 \text{ m/s}^2$

$a = ?$



$P = N$
 $P = mg = 90 \cdot 10 = 900 \text{ H}$
 $\vec{m}\vec{a} = \vec{m}\vec{g} + \vec{N}$ II 3-N Newton
 OY: $ma = mg - N$
 $N = m(g - a)$

$m_1(g - a) = m_2 g$
 $120(10 - a) = 900$
 $10 - a = 7,5$
 $a = 2,5 \text{ m/s}^2$

Jawab: $2,5 \text{ m/s}^2$

N4

Dano: *Jawab:*

$C_1 = C_2 = C_3$

$m_1 = 80 \text{ g} = 0,08 \text{ kg}$

$m_2 = 60 \text{ g} = 0,06 \text{ kg}$

$m_3 = 40 \text{ g} = 0,04 \text{ kg}$

$t_1 = 80^\circ \text{C}$

$t_2 = 60^\circ \text{C}$

$t_3 = 40^\circ \text{C}$

$t_n = ?$

$Q = L m \Delta t$

$Q_1 = m_1 C_1 (t_1 - t_n)$

$Q_2 = m_2 C_2 (t_2 - t_n)$

$Q_3 = m_3 C_3 (t_3 - t_n)$

$Q_1 + Q_2 + Q_3 = 0$

$m_1 C (t_1 - t_n) + m_2 C (t_2 - t_n) + m_3 C (t_3 - t_n) = 0$

$0,08(80 - t_n) + 0,06(60 - t_n) + 0,04(40 - t_n) = 0$
 $6,4 - 0,08t_n + 3,6 - 0,06t_n + 1,6 - 0,04t_n = 0$
 $11,6 - 0,18t_n = 0$
 $11,6 = 0,18t_n$
 $t_n = 64,4^\circ \text{C}$

Jawab: $64,4^\circ \text{C}$

N5

Dano: *Jawab:*

$S = 500 \text{ m}$

$t = 625 \text{ s}$

$v_{max} = 30 \text{ km/h} = 0,3 \text{ m/s}$

$S_{maks} = ?$



$v_B = \frac{S}{t} = 0,8 \text{ m/s}$

$v_B = v + v_{max}$

$v = v_B - v_{max} = 0,8 - 0,3 = 0,5 \text{ m/s}$

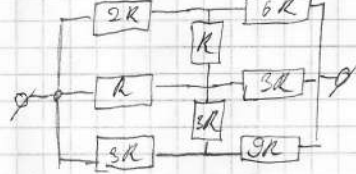
$t_2 = \frac{S}{v} = \frac{500}{0,5} = 1000 \text{ s}$

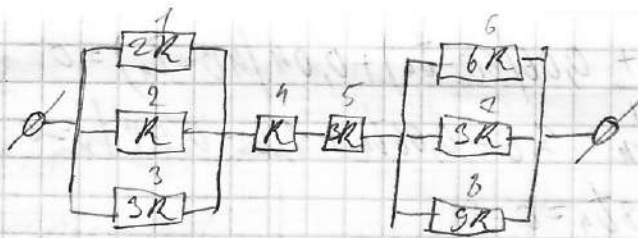
$S_{maks} = t_2 \cdot v_{max} = 1000 \cdot 0,3 = 300 \text{ m}$

$S_{maks} = S_{maks} + S = 500 + 300 = 800 \text{ m}$

Jawab: 800 m

N5





$$R_{123} = \frac{1}{K_{123}} = \frac{1}{2K} + \frac{1}{K} + \frac{1}{3K} = \frac{11}{6K}$$

$$K_{123} = \frac{6K}{11}$$

$$\frac{1}{R_{678}} = \frac{1}{6K} + \frac{1}{3K} + \frac{1}{9K} = \frac{11}{18K}$$

$$K_{678} = \frac{18K}{11}$$

$$R_{\text{total}} = R_{123} + R_4 + R_5 + R_{678} =$$

$$= \frac{6K}{11} + K + 3K + \frac{18K}{11} =$$

$$= \frac{6K + 11K + 33K + 18K}{11} = \frac{68K}{11}$$

$$\text{Answer: } \frac{68K}{11}$$