

$$Q = q \cdot l = 1,2 \cdot 3 = 3,6t$$

$$P_2V = P_2 \sin 60^\circ = 2 \cdot 0,866 = 1,73t$$

$$P_2H = P_2 \cos 60^\circ = 2 \cdot 0,5 = 1t$$

Reaksi Tumpuan

$$\sum H = 0$$

$$R_{AH} - P_2H = 0$$

$$R_{AH} = P_2H = 1t \quad (\rightarrow)$$

$$\sum M_A = 0$$

$$-R_{BV} \cdot 8,5 + P_1 \cdot 1 + Q \cdot 4 + P_2V \cdot 6,5 = 0$$

$$-R_{BV} \cdot 8,5 + 1,5 \cdot 1 + 3,6 \cdot 4 + 1,73 \cdot 6,5 = 0$$

$$-8,5 \cdot R_{BV} + 1,5 + 14,4 + 11,25 = 0$$

$$-8,5 R_{BV} + 27,15 = 0$$

$$R_{BV} = \frac{27,15}{8,5} = 3,19t \quad (\uparrow)$$

$$\sum M_B = 0$$

$$R_{AV} \cdot 8,5 - P_1 \cdot 7,5 - Q \cdot 4,5 - P_2V \cdot 2 = 0$$

$$8,5 R_{AV} - 1,5 \cdot 7,5 - 3,6 \cdot 4,5 - 1,73 \cdot 2 = 0$$

$$8,5 R_{AV} - 11,25 - 16,2 - 3,46 = 0$$

$$8,5 R_{AV} - 30,91 = 0$$

$$R_{AV} = \frac{30,91}{8,5} = 3,64t \quad (\uparrow)$$

$$\sum V = 0$$

$$R_{AV} + R_{BV} - P_1 - Q - P_2V = 0$$

$$3,64 + 3,19 - 1,5 - 3,6 - 1,73 = 0$$

$$0 = 0 \rightarrow \text{Ok!}$$

Gaya Lintang

$$D_A K_i = 0$$

$$D_A K_a = R_{AV} = 3,64t$$

$$D_C K_i = D_A K_a = 3,64t$$

$$D_C K_a = D_C K_i - P_1 = 3,64 - 1,5 = 2,14t$$

$$D_D K_i = D_C K_a = 2,14t$$

$$D_D K_a = D_D K_i = 2,14t$$

$$D_E K_i = D_D K_a - Q = 2,14 - 3,6 = -1,46t$$

$$D_E K_a = D_E K_i = -1,46t$$

$$D_F K_i = D_E K_a = -1,46t$$

$$D_F K_a = D_F K_i - P_2 V = -1,46 - 1,73 = -3,19t$$

$$D_B K_i = D_F K_a = -3,19t$$

$$D_B K_a = D_B K_i + R_{BV} = -3,19 + 3,19 = \underline{\underline{0}}$$

Momen

$$M_A = 0$$

$$M_C = R_{AV} \cdot 1 = 3,64 \cdot 1 = 3,64 \text{ tm}$$

$$M_D = R_{AV} \cdot 2,5 - P_1 \cdot 1,5 = 3,64 \cdot 2,5 - 1,5 \cdot 1,5 = 9,1 - 2,25 = 6,85 \text{ tm}$$

$$\begin{aligned} M_E &= R_{AV} \cdot 5,5 - P_1 \cdot 4,5 - Q \cdot 1,5 = 3,64 \cdot 5,5 - 1,5 \cdot 4,5 - 3,6 \cdot 1,5 \\ &= 20,02 - 6,75 - 5,4 = 7,87 \text{ tm} \end{aligned}$$

$$\begin{aligned} M_F &= R_{AV} \cdot 6,5 - P_1 \cdot 5,5 - Q \cdot 2,5 = 3,64 \cdot 6,5 - 1,5 \cdot 5,5 - 3,6 \cdot 2,5 \\ &= 23,66 - 8,25 - 9 = 6,41 \text{ tm} \end{aligned}$$

$$\begin{aligned} M_B &= R_{AV} \cdot 8,5 - P_1 \cdot 7,5 - Q \cdot 4,5 - P_2 V \cdot 2 = 3,64 \cdot 8,5 - 1,5 \cdot 7,5 - 3,6 \cdot 4,5 - 1,73 \cdot 2 \\ &= 30,94 - 11,25 - 16,2 - 3,46 = 0,03 \text{ tm} \quad \hookrightarrow \underline{\underline{0}} \end{aligned}$$

$$M_x = R_{AV}(x+2,5) - P_1(x+1,5) - q \cdot x \cdot \frac{1}{2} \cdot x$$

$$M_x = R_{AV} \cdot x + R_{AV} \cdot 2,5 - P_1 \cdot x - P_1 \cdot 1,5 - \frac{1}{2} \cdot q \cdot x^2$$

$$\frac{dM_x}{dx} = 0$$

$$R_{AV} - P_1 - qx = 0$$

$$3,64 - 1,5 - 1,2x = 0$$

$$-1,2x = -2,14$$

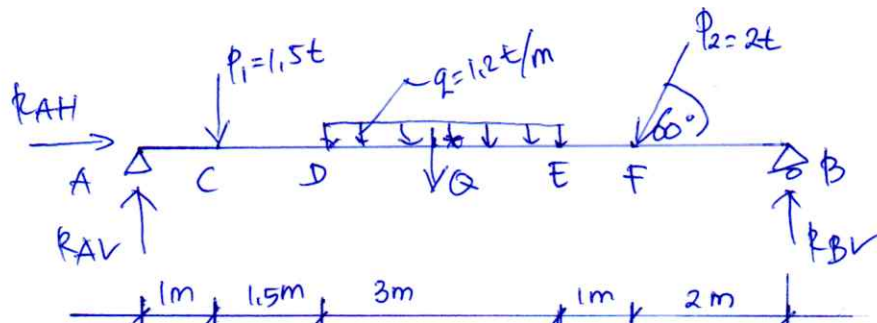
$$x = 1,78 \text{ m dari D}$$

$$M_x = M_{maks} = R_{AV}(x+2,5) - P_1(x+1,5) - q \cdot x \cdot \frac{1}{2} \cdot x$$

$$= 3,64(1,78 + 2,5) - 1,5(1,78 + 1,5) - 1,2 \cdot 1,78 \cdot \frac{1}{2} \cdot 1,78$$

$$= 3,64 \cdot 4,28 - 1,5 \cdot 3,28 - 1,2 \cdot 1,58$$

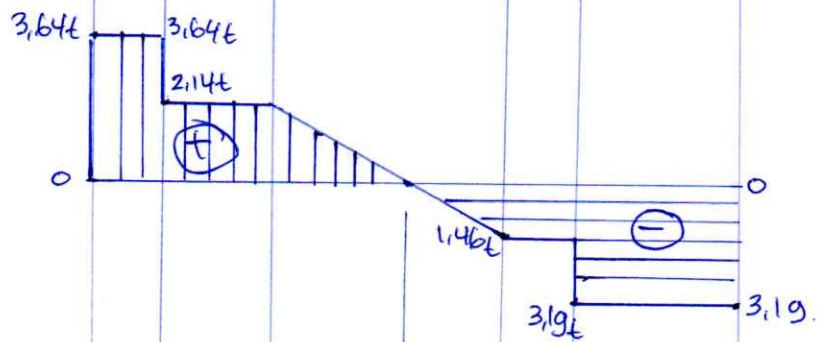
$$= 19,58 - 4,92 - 1,9 = 8,76 \text{ tm}$$



Brd. N



Brd. \mathcal{D}



Brd. M

