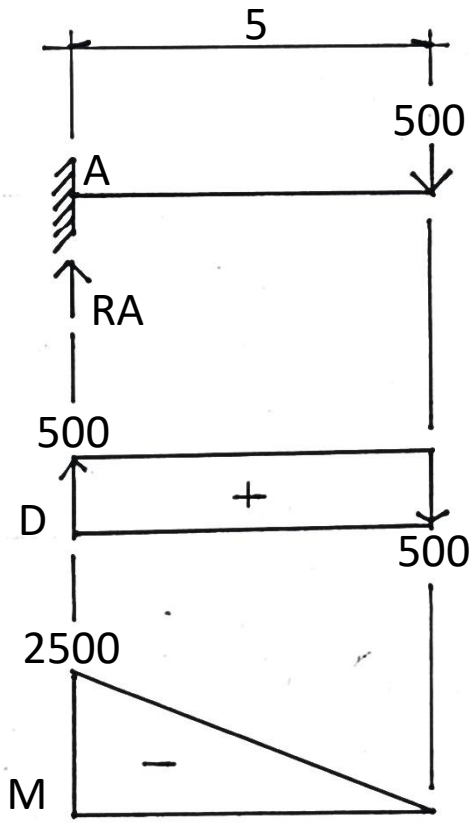
BAB 2 BALOK KANTILEVEL

2.1 Gambar bidang : gaya lintang, momen, P = 500 kg

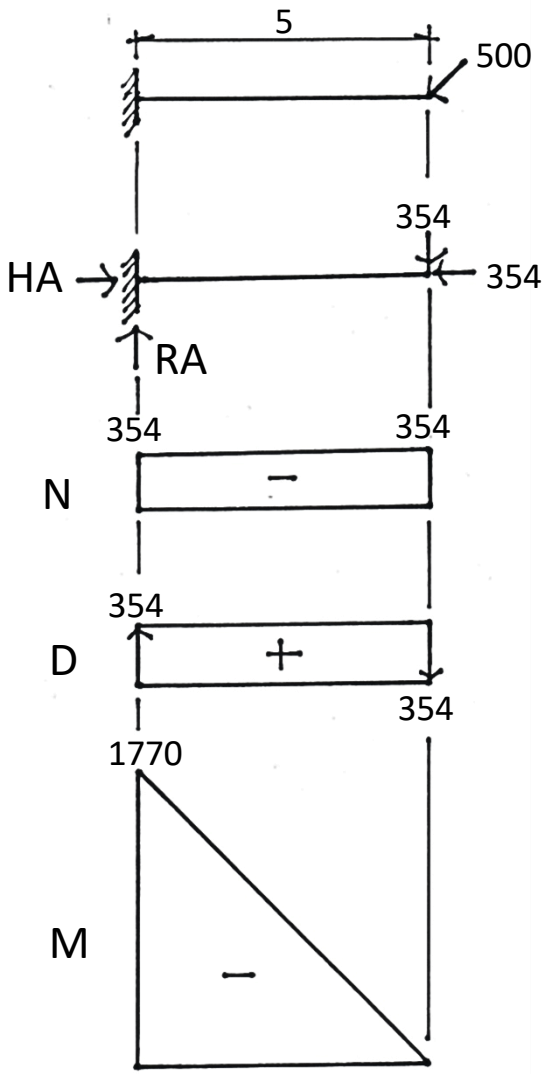


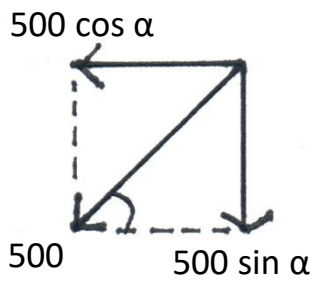
$\Sigma V = 0 \rightarrow RA - 500 = 0 \rightarrow$ **RA = 500 kg**

$\Sigma M = 0 \rightarrow MA = 500.\ 5 =$ **2500 kgm**

2.2 Gambar bidang : gaya aksial, gaya lintang dan momen

P = 500 kg ; α = 45°





P cos 45 = 500. 0,707 = **354 kg**

P sin 45 = 500. 0,707 = **354 kg**

ΣH = 0 → HA – 354 = 0

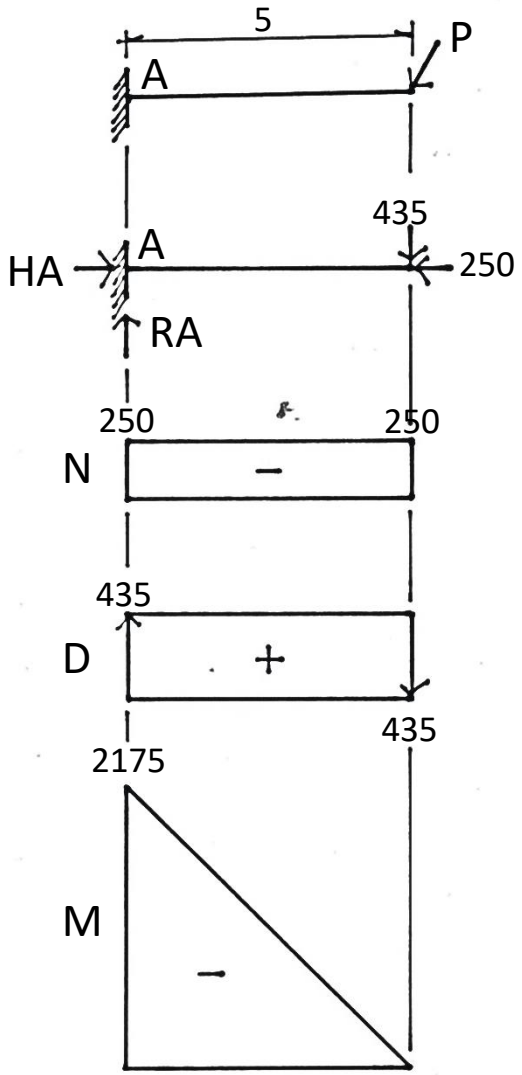
HA = 354 kg

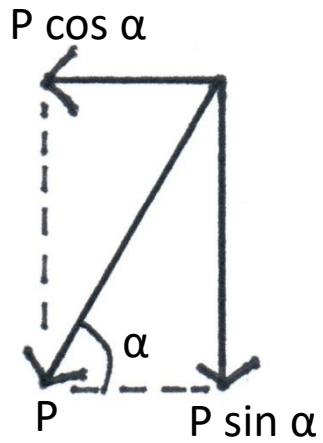
ΣV = 0 → RA – 354 = 0 → **RA = 354 kg**

ΣM = 0 → MA = 354. 5 = **1770 kgm**

2.3 Gambar bidang : gaya aksial, gaya lintang, momen.

P = 500 kg ; α = 60°





P cos 60° = 500. 0,5 = **250 kg**
P sin 60° = 500. 0,87 = **435 kg**

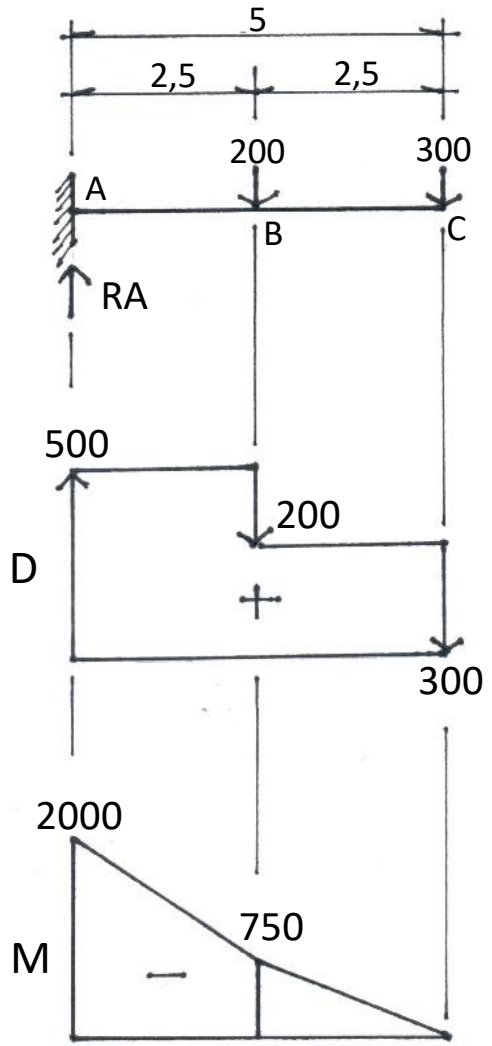
ΣH = 0 → HA – 250 = 0 → **HA = 250 kg**

ΣV = 0 → RA – 435 = 0 → **RA = 435 kg**

ΣM = 0 → MA = 435. 5 = **2175 kgm**

2.4 Gambar bidang : gaya lintang dan momen.

$P_1 = 200$ kg ; $P_2 = 300$ kg



$\Sigma V = 0 \rightarrow RA - 200 - 300 = 0$

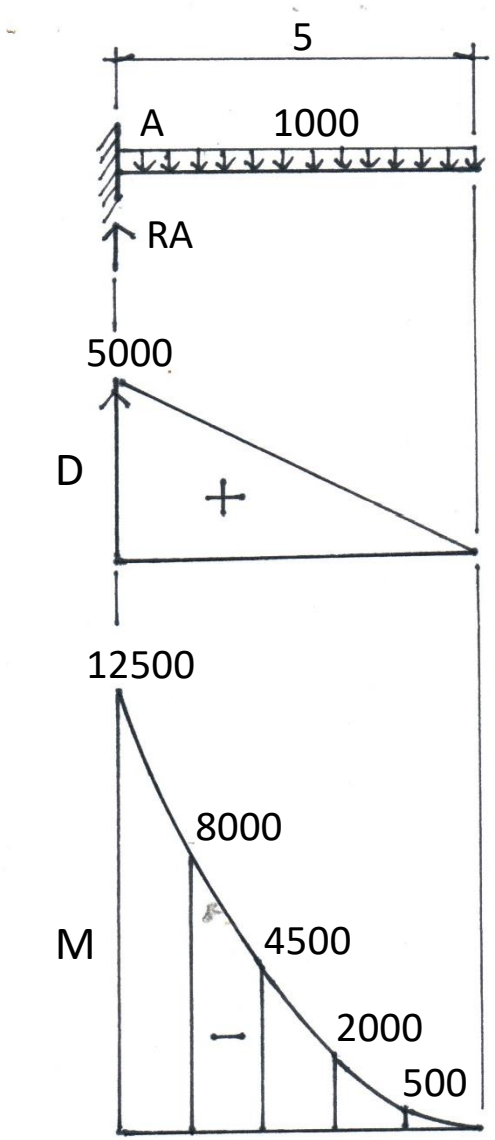
RA = 500 kg

$\Sigma M = 0 \rightarrow MA = 200.\ 2{,}5 + 300.\ 5$

= **2000 kgm**

MB = 300. 2,5 = **750 kgm**

2.5 Gambar bidang : gaya lintang dan momen → W = 1000 kg/m



ΣV = 0 → RA – 1000. 5 = 0 → **RA = 5000 kg**
ΣM = 0 → MA = 0,5. 1000. 5^2 = **12500 kgm**
X = 1 m dari B → MX = 0,5. 1000. 1^2 = 500 kgm
X = 2 m dari B → MX = 0,5. 1000. 2^2 = 2000 kgm
X = 3 m dari B → MX = 0,5. 1000. 3^2 = 4500 kgm
X = 4 m dari B → MX = 0,5. 1000. 4^2 = 8000 kgm