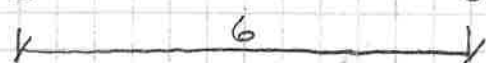


Utbredd last - tvärkraft - och momentdiagram

(m)

$$Q = 1000 \text{ N/m}$$



$$Q = 1000 \text{ N/m} \quad Q = 6000 \text{ N}$$



uppgift:

frilägg

rita krafter

beräkna krafter

$$\uparrow: R_A + R_B - 6000 = 0$$

symmetri $\Rightarrow$

$$R_A = R_B = 3000$$

T_c, M_c har riktning som i boken

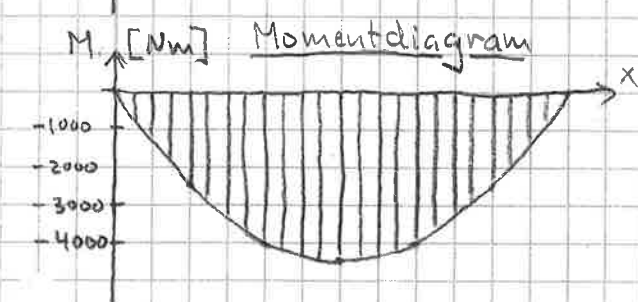
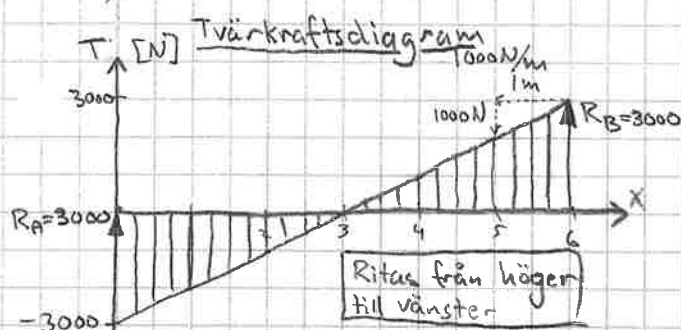
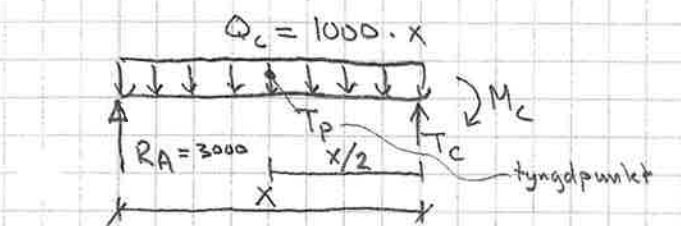
jämvikt:

$$\uparrow: 3000 - 1000x + T_c = 0 \Rightarrow$$

$$T_c = 1000x - 3000$$

$$\curvearrowright: 3000x - 1000x \cdot \frac{x}{2} + M_c = 0 \Rightarrow$$

$$M_c = 500x^2 - 3000x$$



x [m]	$T_c = 1000x - 3000$	$M_c = 500x^2 - 3000x$
0	-3000	0
1	-2000	-2500
2	-1000	-4000
3	0	-4500
4	1000	-4000
5	2000	-2500
6	3000	0

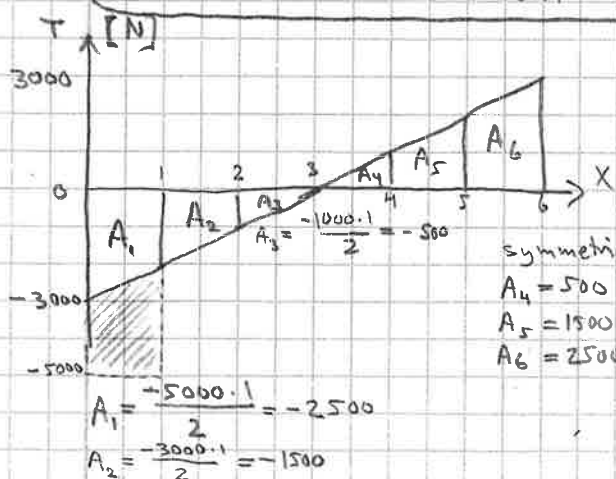
A_1
 $A_1 + A_2$
 $A_1 + A_2 + A_3$
 $A_1 + A_2 + A_3 + A_4$
 $A_1 + A_2 + A_3 + A_4 + A_5$
 $A_1 + A_2 + \dots + A_6$

$$M(x) = \int_0^x T(x) dx$$

Ritas från vänster till höger

Arean från vänster till x i T-x-diagrammet = $M(x)$

(arean under x-axeln räknas negativt)



symmetri $\Rightarrow$

$$A_4 = 500$$

$$A_5 = 1500$$

$$A_6 = 2500$$

$$A_1 = \frac{-5000 \cdot 1}{2} = -2500$$

$$A_2 = \frac{-3000 \cdot 1}{2} = -1500$$

Räkna 99

97

98

99