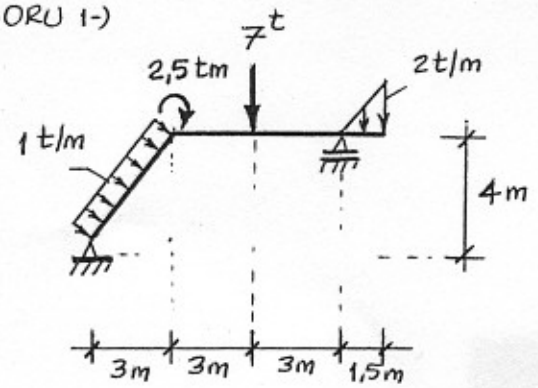
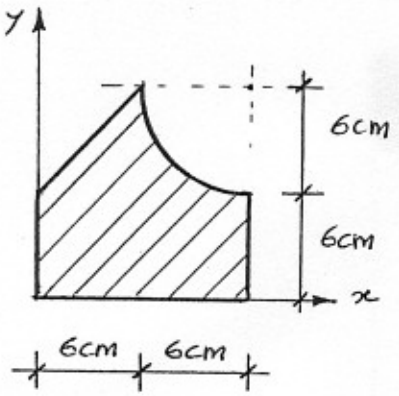
SORU 1-)



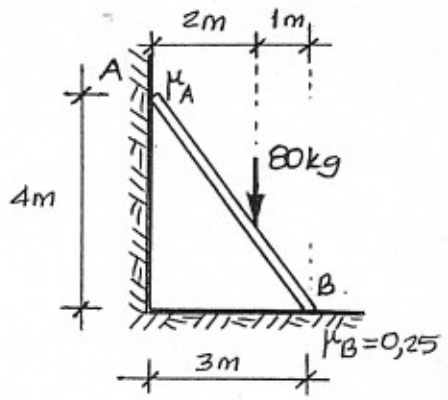
Şekilde ölçüleri ve yükleri verilen sistemde mesnet tepkilerini hesaplayınız.

SORU 2-)



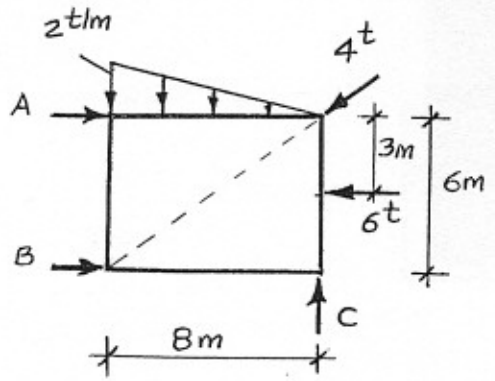
Şekilde verilen taralı alanın,
a-) x,y eksen takımına göre ağırlık merkezinin koordinatlarını,
b-) x ekseni etrafında 270° dönmesiyle oluşacak cismin hacimini, hesaplayınız.

SORU 3-)



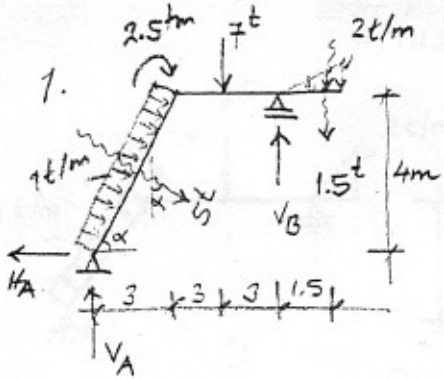
Şekilde verilen 20kg ağırlığındaki merdiven A ve B noktalarına dayanmaktadır. $\mu_B=0,25$ olduğuna göre, denge anında μ_A'nın değeri nedir, hesaplayınız.

* SORU 4-)



Şekilde verilen sistemin dengede olabilmesi için A,B,C kuvvetleri ne olmalıdır, hesaplayınız.

1.

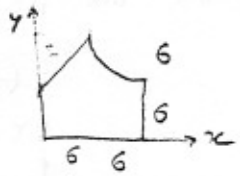


$H_A = (5)(0.8) = 4^t$ (5)

$V_B \cdot 9 - (1.5)(10) + (7)(6) + (5)(2.5) + 2.5 = 0 \quad V_B = 8^t$ (10)

$V_A = 1.5 + 7 + (5)(0.6) - 8 = 3.5^t$ (10)

2.



a)

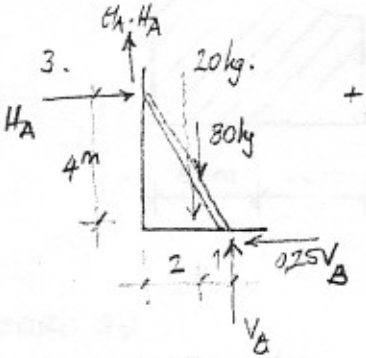
i	A_i	x_i	y_i	$A_i x_i$	$A_i y_i$
1	144	6	6	864	864
2	-18	2	10	-36	-180
3	-28.26	9.45	9.45	-267.06	-267.06
$\Sigma =$	97.74			560.94	416.94

$x_g = 5.74$ cm (7)

$y_g = 4.27$ cm (8)

b) $V = 3\pi/2 \cdot 97.74 \cdot 4.27 = 1965.72\ cm^3$ (10)

3.

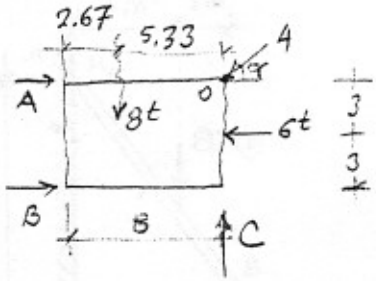


$+\circlearrowleft \Sigma M_A = 0 \quad V_B \cdot 3 - 0{,}25 V_B \cdot 4 - 20 \cdot 1{,}5 - 80 \cdot 2 = 0 \rightarrow V_B = 95.00$ kg (5)

$H_A = (0{,}25)(95) = 23.75$ kg (5)

$\mu_A (23.75) = 100 - 95 \longrightarrow \mu = 0.21$ (15)

* 4.



$\circlearrowleft^{+} \Sigma M_0 = 0 \quad B \cdot 6 - 6 \cdot 3 + 8 \cdot (5{,}33) = 0 \longrightarrow B = -4.11^t$ (10)

$\Sigma Y = 0 \quad C = 8 + 4 \cdot (0{,}6) \longrightarrow C = 10{,}40^t$ (7)

$\Sigma X = 0 \quad A = 6 + 4 \cdot 11 + 4 \cdot (0{,}8) \longrightarrow A = 13.31^t$ (8)