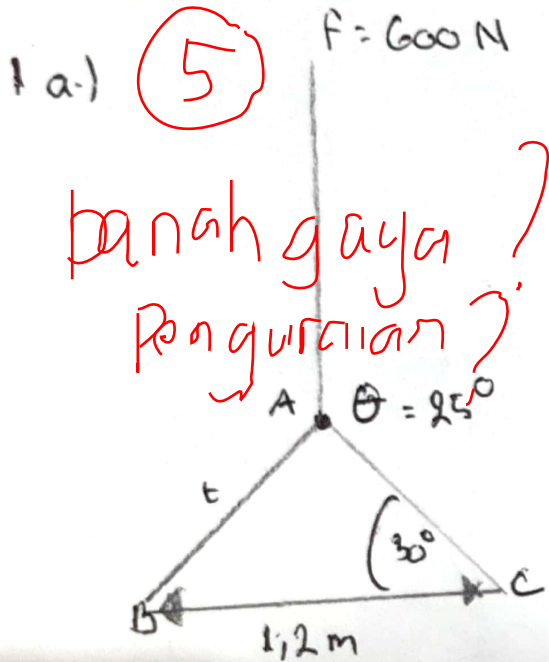


Bagas Bayan S  
16 1080001  
URS - Statika.

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1 b.)  $\sum F_y = 0$

sama dgn laksana

$$600 - F_C \sin 30 - F_B \sin 25 = 0$$

$$600 - \frac{1}{2} F_C - 0,423 F_B = 0$$

$$\frac{1}{2} F_C + 0,423 F_B = 600 \quad (50)$$

$$0,175 F_C + 0,423 F_B = 600$$

$$0,398 F_C - 0,423 F_B = 0 \quad \rightarrow \text{dikali m. 7 a)}$$

$$0,175 F_C = 600$$

$$F_C = 668,5 \text{ N}$$

$\sum F_x = 0$

$$F_C \cos 30 - F_B \cos 25 = 0$$

$$\frac{1}{2} \sqrt{3} F_C = 0,91 F_B$$

$$0,866 F_C - 0,91 F_B = 0$$

$$0,398 F_C - 0,423 F_B = 0$$

$$0,866 F_C - 0,91 F_B = 0$$

$$5,78,62 - 0,91 F_B = 0$$

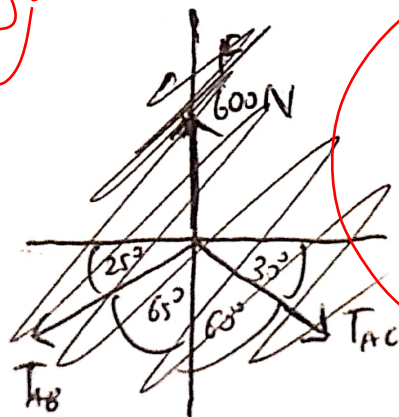
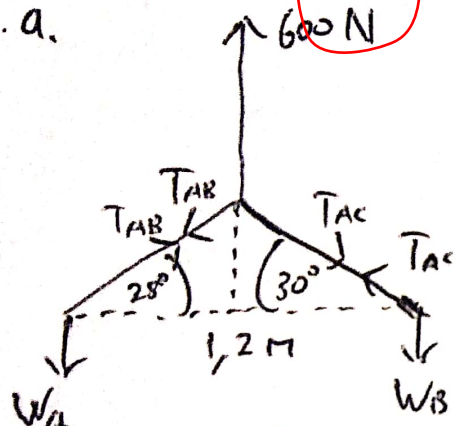
$$F_B = 635,845 \text{ N}$$

Andreo  
161020002  
Statika

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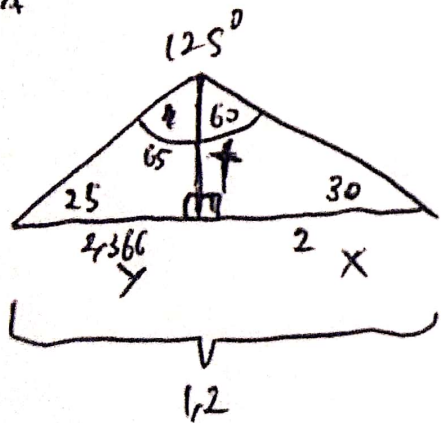
Curry ini yg benar

1. a.

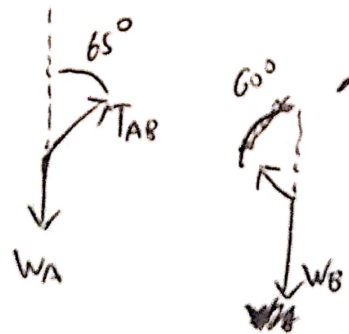


~~$\sum F_x = 0$~~   
 ~~$T_{AB} \cos 25^\circ = T_{AC} \cos 30^\circ$~~   
 ~~$\sum F_y = 0$~~   
 ~~$600 = T_{AB} \sin 25^\circ + T_{AC} \sin 30^\circ$~~

b.



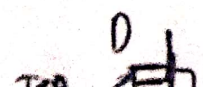
misal  $t=1$   
 $\sin 30^\circ = \frac{1}{2}$   
 $\sin 25^\circ = \frac{1}{2,366}$



~~$T_{AB} \sin 25^\circ = WA = 270$~~   
 ~~$T_{AB} = \frac{270}{\sin 25^\circ} = 638,8744 \text{ N}$~~   
 $T_{AC} \sin 30^\circ = WB = 330$   
 $T_{AC} = 660 \text{ N}$

$x = \frac{2}{4,366} \cdot 1,2 \approx 0,55$   
 $y \approx 1 - 0,55 = 0,45$

2. a.



b.

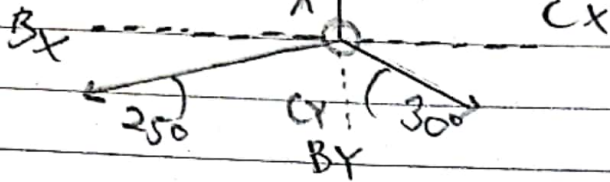
①

$F = 600 \text{ N}$

70

panah gaya & arahnya?

20



$\sum F_y = 0$

$600 - F_C \sin 30 - F_B \sin 25 = 0$  (5)

$600 - \frac{1}{2} F_C - 0,423 F_B = 0$

$\frac{1}{2} F_C + 0,423 F_B = 600$

$0,5 F_C + 0,423 F_B = 600$

$0,398 F_C - 0,423 F_B = 0$

$0,898 F_C = 600$

$F_C = 668,15 \text{ satuan?}$

darimana?

$\sum F_x = 0$

$F_C \cos 30 - F_B \cos 25 = 0$

sama aja bagus!

$\frac{1}{2} F_C = 0,91 F_B$

$0,866 F_C - 0,91 F_B = 0$

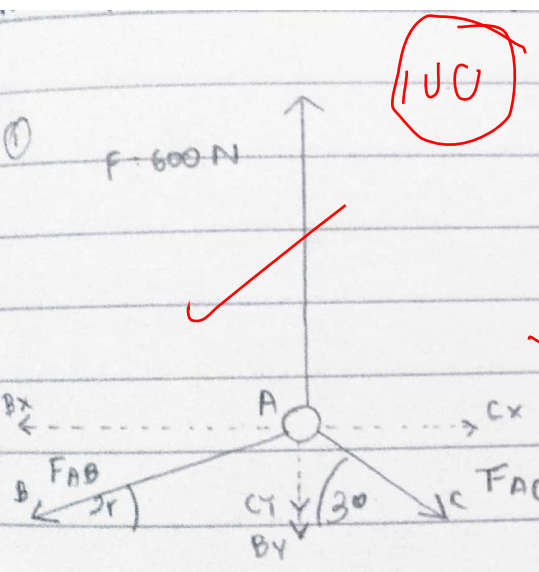
$0,398 F_C - 0,423 F_B = 0$

$0,866 F_C - 0,91 F_B = 0$

$570,62 - 0,91 F_B = 0$

$F_B = 627,05 \text{ N}$





$$\Sigma F_y = 0$$

$$600 - F_c \sin 30 - F_B \sin 25 = 0$$

$$600 - \frac{1}{2} F_c - 0,423 F_B = 0$$

$$\frac{1}{2} F_c + 0,423 F_B = 600$$

$$\Sigma F_x = 0$$

$$F_c \cos 30 - F_B \cos 25 = 0$$

$$\frac{1}{2} F_c = 0,91 F_B$$

$$0,066 F_c - 0,91 F_B = 0 \rightarrow 0,398 F_c - 0,423 F_B = 0$$

$$\rightarrow 0,15 F_c + 0,423 F_B = 600$$

$$0,398 F_c - 0,423 F_B = 0 \quad +$$

$$0,898 F_c = 600$$

$$F_{AC} = 668,15 \text{ N}$$

$$\sim 0,066 F_c - 0,91 F_B = 0$$

$$578,62 - 0,91 F_B = 0$$

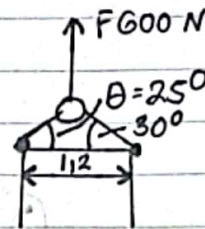
$$F_{AB} = 635,845 \text{ N}$$

$$F_{AB} = T_{AB}$$

$$F_{AC} = T_{AC}$$

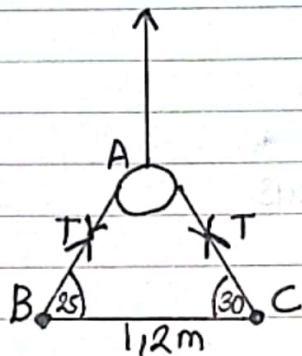
# Jawaban UTS STATIKA

1. Diket =  $F = 600\text{ N}$   $\theta = 30^\circ$   
 $\theta = 25^\circ$   $= 1,2\text{ m}$



Jawab =

a. Gambar Diagram benda bebas



(40)

(9)

b. Nilai tegangan tali AB dan AC

$$\sum F_x = 0$$

$$F_C \cos 30 - F_B \cos 25 = 0$$

$$0,866 F_C - 0,91 F_B = 0$$

$$0,398 F_C - 0,433 F_B = 0$$

$$\sum F_y = 0$$

$$F - F_C \sin 30 - F_B \sin 25 = 0$$

$$600 - 0,5 F_C - 0,422 F_B = 0$$

$$0,5 F_C + 0,422 F_B = 600$$

$F_B = 635,84\text{ N}$  (50)

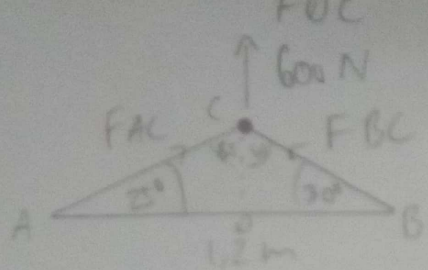
$$-0,5 F_C + 0,422 F_B = 600$$

$$0,398 F_C - 0,422 F_B = 0$$

$$0,898 F_C = 600$$

$$F_C = 668,15\text{ N}$$

①



50

$$\frac{0,31}{\tan 30} = BO = 0,536 = 0,54 \text{ m}$$

$$\frac{0,31}{\tan 25} = AO = 0,663 = 0,66 \text{ m}$$

$$AO + BO = 1,2 \text{ m}$$

40

$$\frac{DC}{\tan 25} + \frac{DC}{\tan 30} = 1,2$$

$$\tan 25 = \frac{DC}{AO}$$

$$BC = 0,62 \text{ m}$$

$$\frac{DC \cdot \tan 30 + DC \cdot \tan 25}{\tan 25 \cdot \tan 30} = 1,2$$

$$\tan 25 = \frac{DC}{AC}$$

$$AC = 0,73 \text{ m}$$

$$DC = \frac{1,2 (\tan 25 \cdot \tan 30)}{\tan 25 + \tan 30}$$

$$= 0,309$$

$$= 0,31 \text{ m}$$

10

$$\frac{DC}{AC} = \frac{FBC}{FAC}$$

$$\frac{DC}{BC} = \frac{FBC}{FAC}$$

$$\frac{0,31}{0,62} = \frac{600}{FAC}$$

$$\frac{0,31}{0,73} = \frac{600}{FAC}$$

$$FAC = 1200 \text{ N}$$

$$FBC = 1412,9 \text{ N}$$

Ty



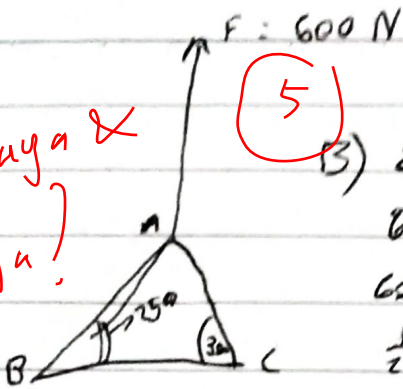
UTS

No. (1)

Date 5/11/20

1. a)

panah gaya & arahnya!



(5)  $\sum F_y = 0$  (3J)

$$600 - F_C \sin 30 - F_B \sin 25 = 0$$

$$600 - \frac{1}{2} F_C - 0,423 F_B = 0$$

$$\frac{1}{2} F_C + 0,423 F_B = 600$$

$\sum F_x ?$

$$0,115 F_C + 0,423 F_B = 600$$

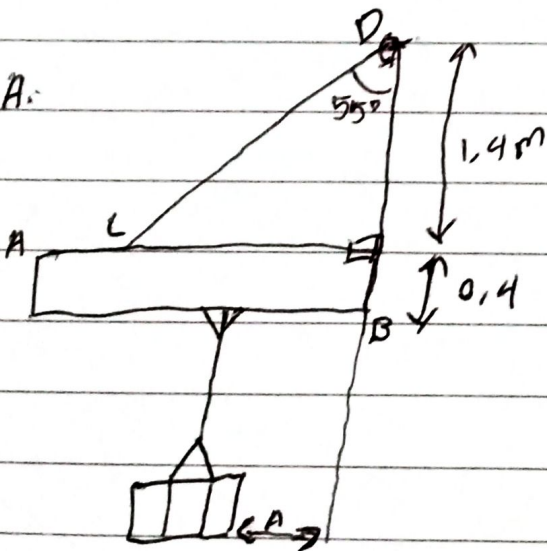
$$0,398 F_C - 0,423 F_B = 0 \rightarrow \text{darimana ni?}$$

$$0,898 F_C = 600$$

$$F_C = 668,15 \text{ N}$$

≡

2.) A:



$$\sum F_x = 0$$

$$F_C \cos 30 - F_B \cos 25 = 0$$

$$\frac{1}{2} \sqrt{3} F_C = 0,91 F_B$$

$$0,866 F_C - 0,91 F_B = 0$$

$$0,398 F_C - 0,423 F_B = 0$$

$$0,866 F_C - 0,91 F_B = 0$$

$$578,62 - 0,91 F_B = 0$$

$$F_B = 635,845 \text{ N}$$

B)  $\sum M_B = W \cdot x - T_y \cdot EC$

$$0 = 490,5 \cdot 1,5 - \cos 55^\circ \cdot T \cdot 2$$

$$T = 735,75 = 741,2 \text{ N}$$

Damaris Poetra Elang R. / 161020009

80

1.a



pengukuran ?  
notasi ?

30

1.b.  $\sum F_y = 0$

$$600 - F_c \sin 30 - F_b \sin 25 = 0$$

$$600 - \frac{1}{2} F_c - 0,423 F_b = 0$$

$$\frac{1}{2} F_c + 0,423 F_b = 600$$

50

$$\sum F_x = 0$$

$$F_c \cos 30 - F_b \cos 25 = 0$$

$$\frac{1}{2} \sqrt{3} F_c = 0,91$$

$$0,398 F_c - 0,423 F_b = 0$$

→ dari mana ini ?

$$\Rightarrow 0,398 F_c + 0,423 F_b = 600$$

$$0,398 F_c - 0,423 F_b = 0$$

$$0,898 F_c = 600$$

$$F_c = 668,15 \text{ N}$$

$$0,866 F_c - 0,91 F_b = 0$$

$$578,62 - 0,91 F_b = 0$$

$$F_b = 635,845 \text{ N}$$



ROZAN FAUZI  
161020011

UAS STATIKA

1) Diket: gaya: 600N  
 $\theta = 25^\circ$

$$\sum F_y = 0$$

$$600 - F_C \sin 35 - F_B \sin \alpha = 0$$

$$600 - \frac{1}{2} F_C - 0,423 F_B = 0$$

$$0,15 F_C + 0,423 F_B = 600$$

$$0,398 F_C - 0,423 F_B = 0$$


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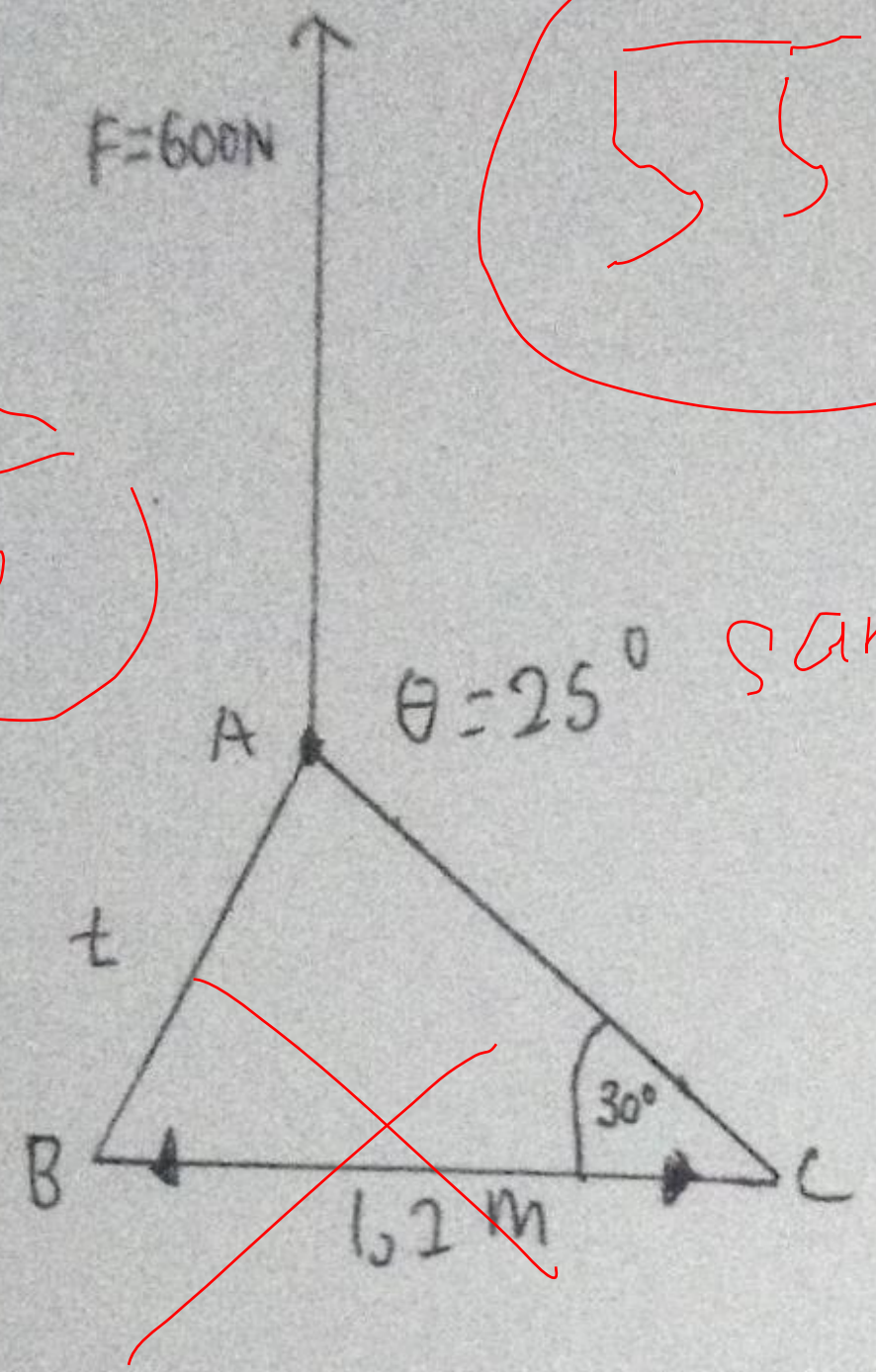

$$0,898 F_C = 600$$

$$F_C = 668,15 \text{ N}$$

55

5

sama dgn bagas!



$$\sum F_x = 0$$

$$F_C \cos 30 - F_B \cos \alpha = 0$$

$$\frac{1}{2} \sqrt{3} F_C = 0,91 F_B$$

$$0,866 F_C - 0,91 F_B = 0 \rightarrow 0,398 F_C - 0,423 F_B = 0$$

50

dimana?)

$$0,866 F_C - 0,91 F_B = 0$$

$$5,78,62 - 0,91 F_B = 0$$

$$F_B = 635,84 \text{ N}$$