

GE 201 STATICS
2nd Semester, 1427-28
First Mid-Term Exam

Time Allowed: 1 hr: 30 min
Tuesday, 22-03-1428

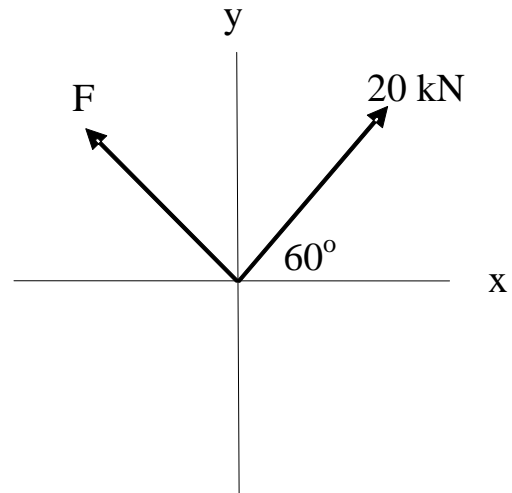
Name (in Arabic) :
Student No.:
Section :

Q. No.	Marks
1	
2	
3	
Total	

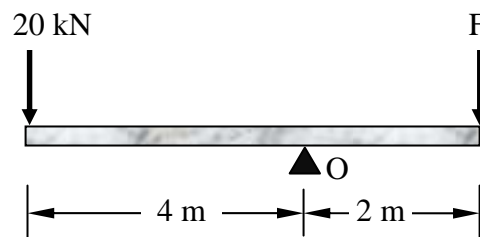
Q # 1 (10 points)

This question contains 5 parts each part has 2 points:

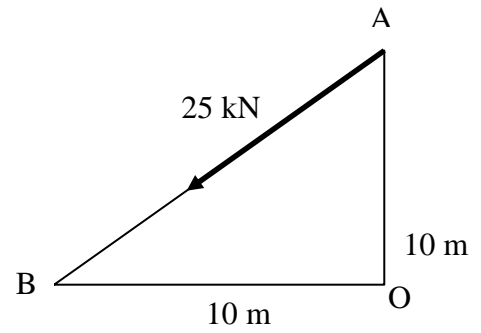
- (a) The resultant of the two forces shown in the figure is along the y-axis, determine the angle and force **F**.



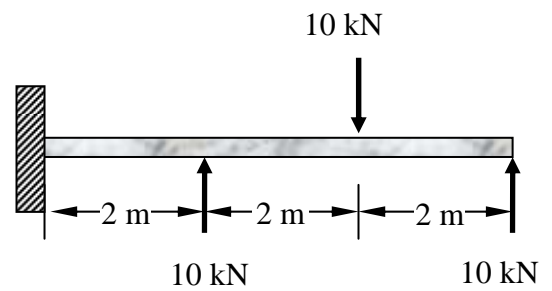
- (b) Determine the force **F**, so that the resultant of the two forces pass through O.



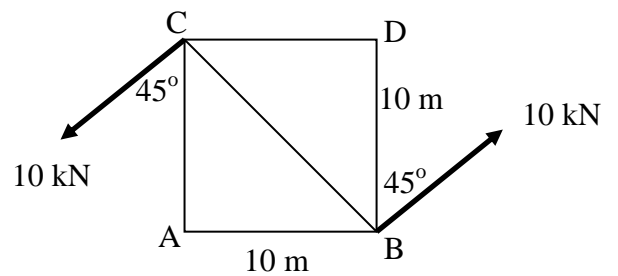
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- (c) Cable AB carries a force of **25 kN**.
Determine the moment about point **O**.



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- (d) Determine and locate the resultant of the three forces.



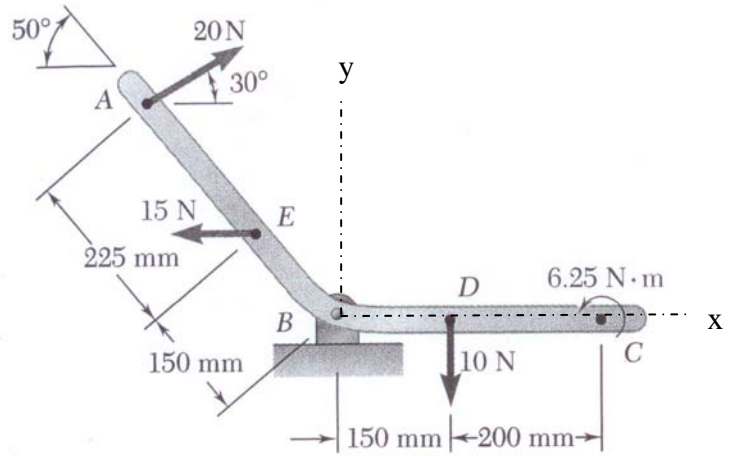
-
- (e) Replace the couple by an equivalent couple consisting of horizontal forces at **A** and **C**.



Q # 2 (10 points)

For the loaded system shown in the figure.

- Replace the three forces and a couple by a single force **R** and moment **M** about point B.
- Determine the direction of **R**.
- Sketch the resultant force and find its intersection with **x-axis**.



Q # 3 (10 points)

The cable **AB** exerts a force ($T = 800 \text{ N}$) on the frame **OA** as shown in the figure:

Determine the value of the moment produced by **T** about the **line OC**.

