

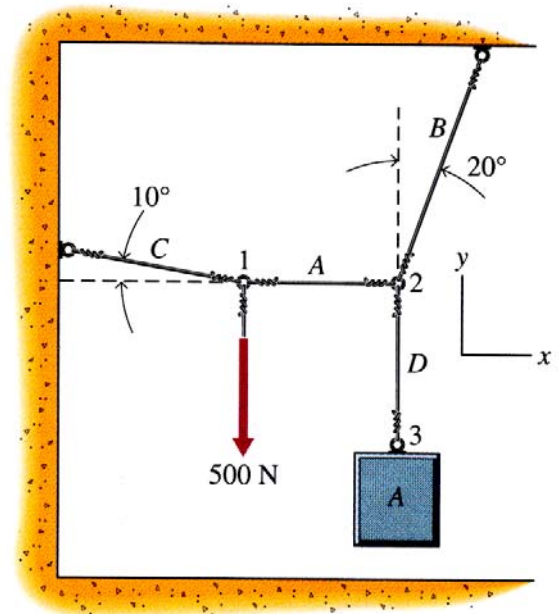
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Exam 1 – Vectors, Particles and Moments

Name:

Section: J

1. The cable system shown is used to lift body A and is in equilibrium as shown. Determine the tension in cables A , B , C , and D . Express the answers as scalars. Note that the weight of body A is initially unknown.



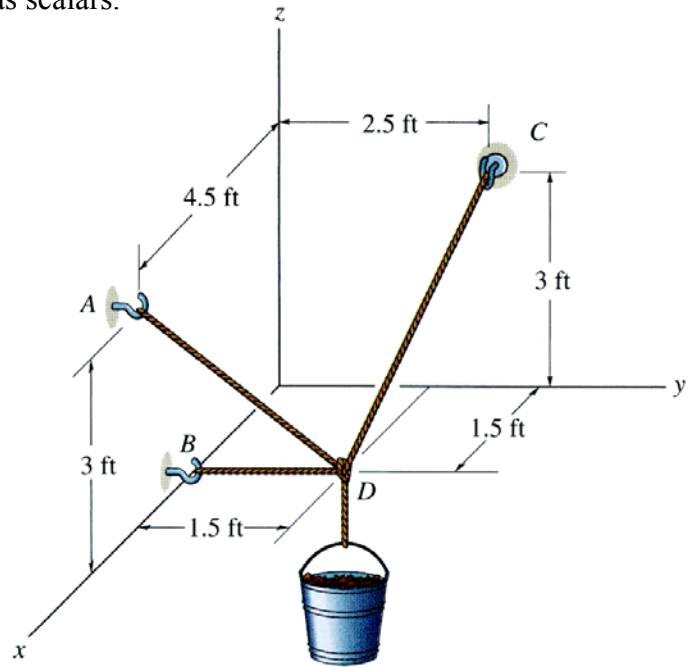
Write legibly – box answers
Include proper units

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2. If the bucket and its contents have a total weight of 20 lb, determine the tension in the supporting cables DA , DB , and DC . Express the answers as scalars.



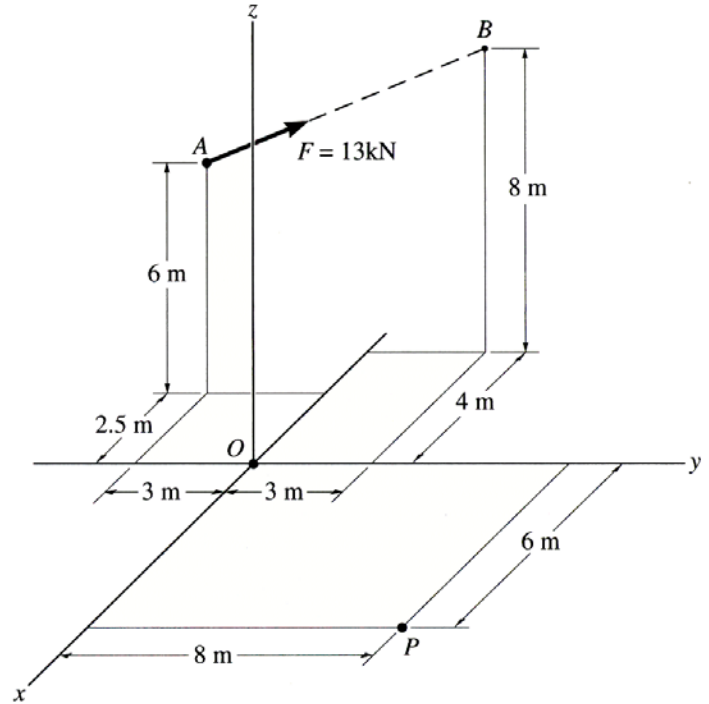
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- 3a. Determine the moment of force F about point P . Express the answer as a vector.
- 3b. Determine the moment of force F about a line connecting points O and P . Express the answer as a scalar.



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4. Replace the loading by an equivalent resultant force and specify where its line of action intersects the beam, measured from point O . Show your answers on the figure to the right, and express them as scalars.

