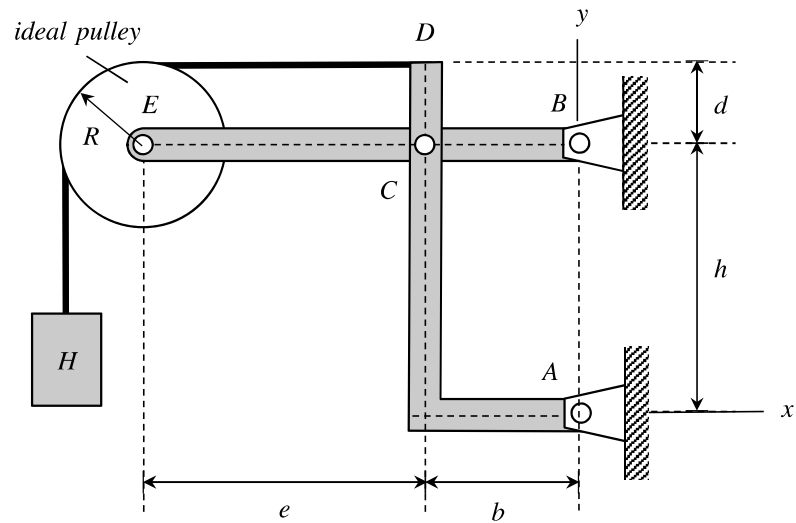


Homework H25.A

Given: A frame is made up of members AD and BE that are pinned together at joint C. An ideal pulley is attached to end E of member BE. A cable is pulled over the pulley that supports block H, where H has a weight of W .

Find: Determine the reactions on the frame at support point A and B. Also, determine the reaction force of member AD on member BE at joint C.

For this problem, use the following parameters: $h = 18$ in, $d = 4$ in, $R = 4$ in, $b = 6$ in, $e = 18$ in and $W = 500$ lb.



Homework H25.B

Given: Consider the mechanism shown below made up of links AB and BC. BC is connected to a slider at end C, with the slider constrained by a rough horizontal guide (μ_s is the coefficient of static friction between the slider and the guide). A vertical load F is applied at the midpoint of link AB. The weights of the links and slider in the mechanism are to be considered negligible as compared to the applied load.

Find:

- Determine the friction force acting on the slider at C by the horizontal guide in order to maintain equilibrium of the mechanism. Express your answer in terms of the applied load F .
- Determine the numerical value for the minimum μ_s required to keep the mechanism in equilibrium.

