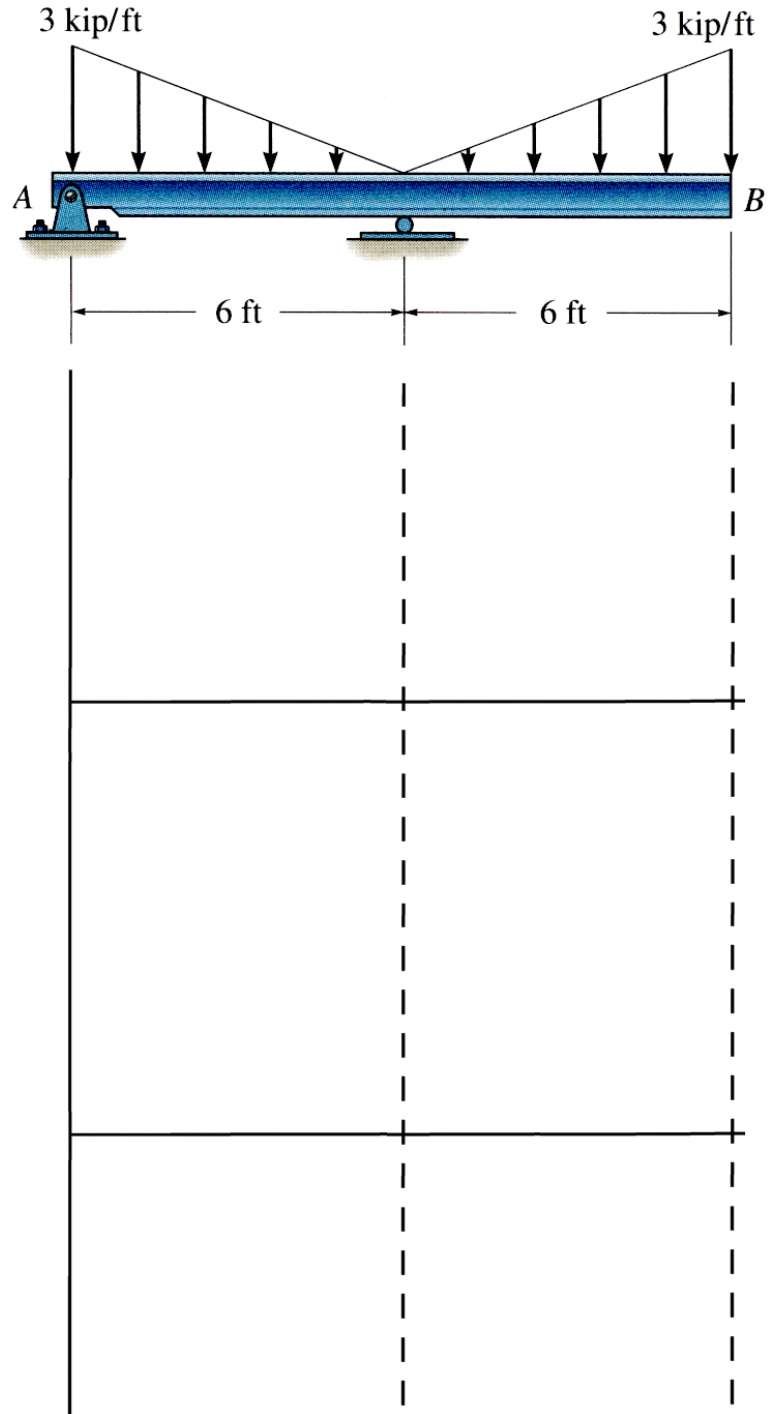


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2. Draw the shear and moment **diagrams** for the beam, **and** derive the shear and moment **equations** for **both** the left and right portions of the beam. Be sure to label all peak values on the diagrams. The ground reaction at the left end is zero, and the ground reaction in the middle is 18 kip (upward).



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Write legibly – box answers
Include proper units

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**Write legibly – box answers
Include proper units**

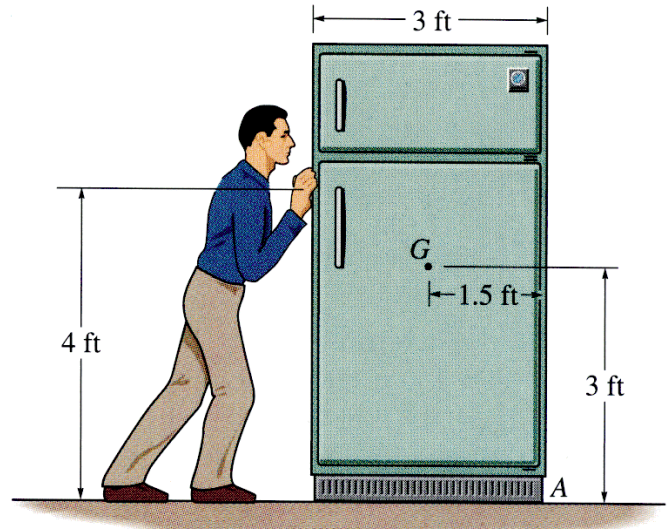
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3. The refrigerator has a weight of 180 lb and rests on a tile floor for which $\mu_s = 0.25$. Also, the man has a weight of 150 lb and the coefficient of static friction between the floor and his shoes is $\mu_s = 0.6$. If he pushes horizontally on the refrigerator, determine if he can move it (**yes/no**). And if so, does the refrigerator **slip** or **tip**?



Write legibly – box answers
Include proper units

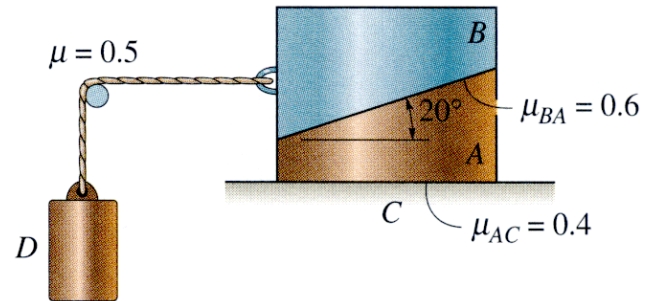
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4. Blocks A and B weigh 75 lb each, and D weighs 30 lb. Determine the **frictional force** between blocks A and B and between block A and the floor C . Does motion occur (**yes/no**)?



Write legibly – box answers
Include proper units