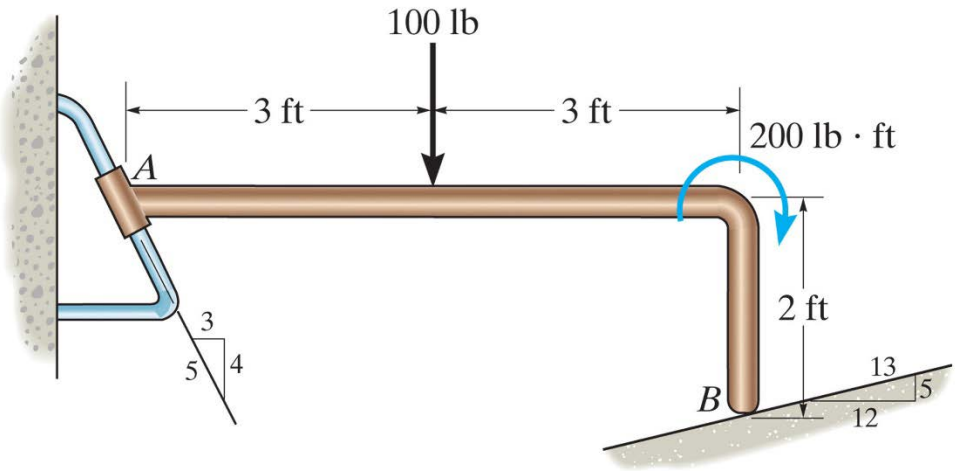
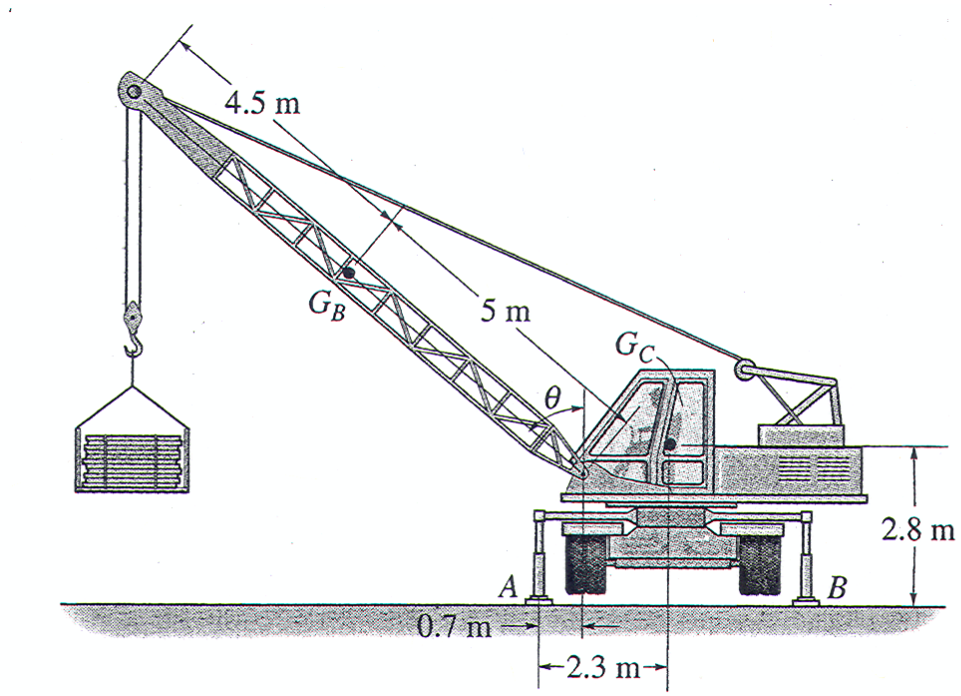
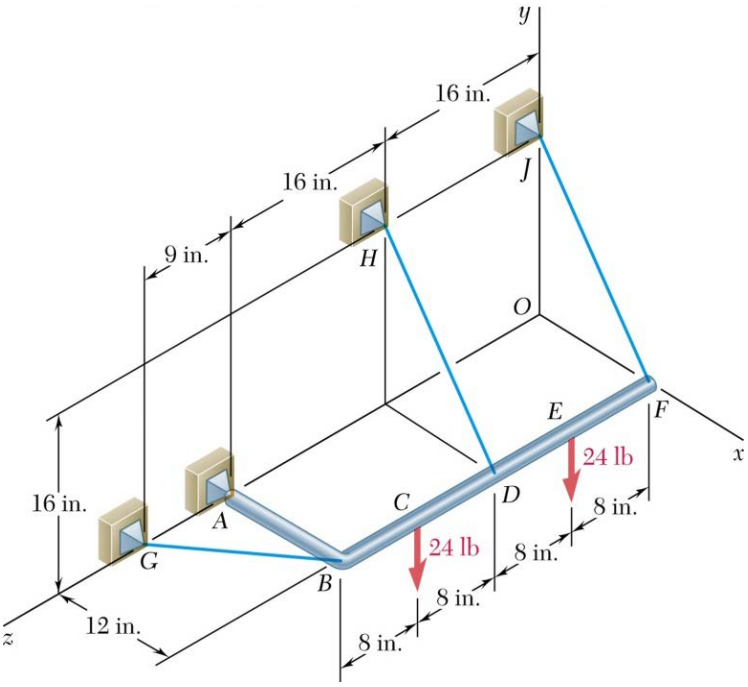
Determine the reactions on the bent rod which is supported by a smooth surface at *B* and by a collar at *A*, which is fixed to the rod and is free to slide over the fixed inclined rod.



Outriggers A and B are used to stabilize the crane from overturning when lifting large loads. If the load to be lifted is 3 Mg, determine the maximum boom angle θ so that the crane does not overturn. The crane has a mass of 5 Mg and center of mass at G_C , whereas the boom has a mass of 0.6 Mg and center of mass at G_B.



The bent rod is supported by a ball-and-socket joint at A and by three cables. Determine the tension in each cable and the reaction at A.



The member is supported by a pin at *A* and cable *BC*. Determine the components of reaction at these supports if the cylinder has a mass of 40 kg.