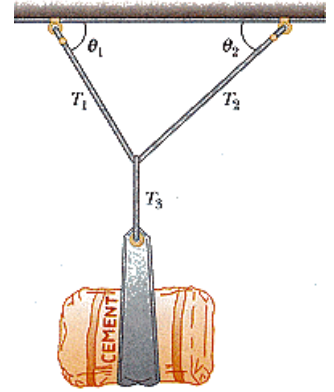


3. A bag of cement weighing 325 N hangs from three ropes as shown in the illustration to the right. The ropes make angles  $\theta_1 = 60.0^\circ$  and  $\theta_2 = 30.0^\circ$  with the horizontal, and the system is in equilibrium. Find the tensions,  $T_1$  and  $T_2$ , in the ropes.



4. A block of mass 9.00 kg is pushed against a wall by a force  $P$  that makes a  $50.0^\circ$  angle with the horizontal as shown in the illustration. The coefficient of static friction between the block and the wall is 0.265. Determine the possible values for the magnitude of  $P$  that allow the block to remain stationary.

