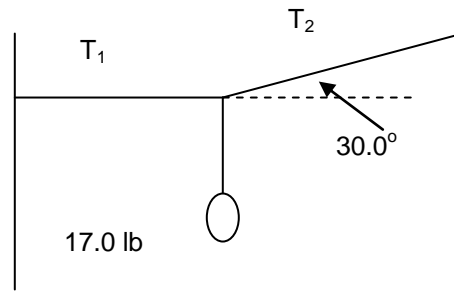


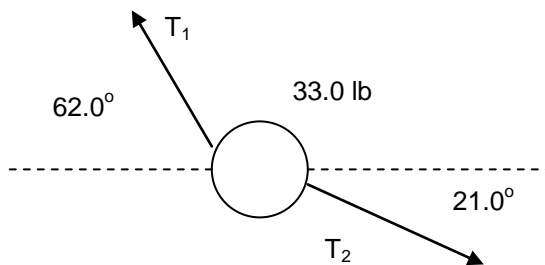
## More Statics With Pulleys

1. A flower pot of mass 4.20 kg is hung above a window by three ropes, each making an angle of 15.0 degrees with the vertical. What is the tension in each rope supporting the flower pot? [14.2 N]
2. Luke Skywalker must swing Princess Leia across a large chasm in order to escape the Storm Troopers. If Luke and Leia's combined mass is 145.0 kg, calculate the tension in the rope just before Luke and Leia start their swing, when the pair makes an angle of 30.00 degrees with the vertical. [1641 N]
3. While camping in Denali National Park in Alaska, a wise camper hangs his pack of food from a rope tied between two trees, to keep the food away from the bears. If the 5.000-kg bag of food hangs from the center of a rope that is 3.000 m long, and the rope sags 6.000 cm in the middle, what is the tension in the rope? [610.5 N]

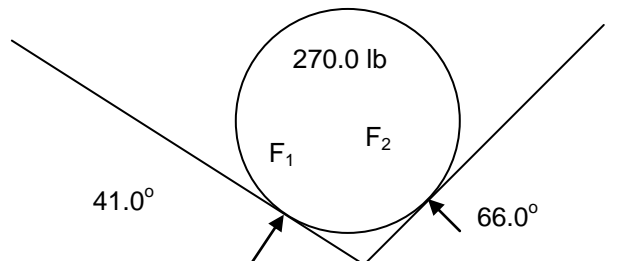
4. To keep fresh veggies cool on summer nights, two adjacent apartment occupants set up the system shown, suspending the goodies between the two apartment buildings. What tension will be in the two ropes when the weight of vegetables is 17.0 pounds? [ $T_1 = 29.4$  lb;  $T_2 = 34.0$  lb]



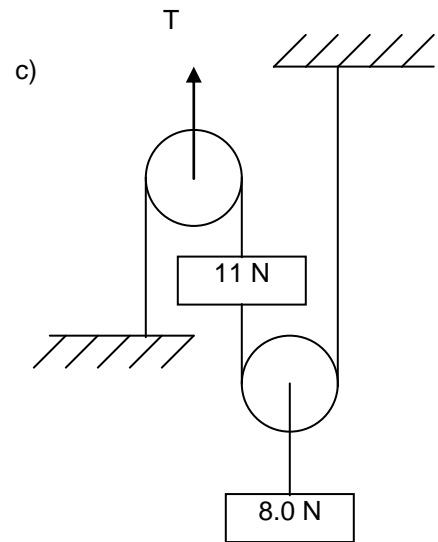
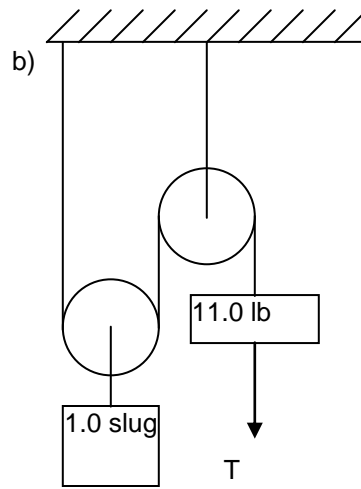
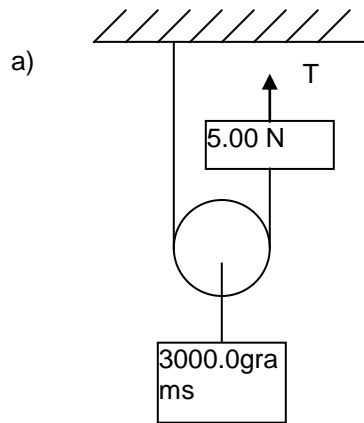
5. Find  $T_1$  and  $T_2$ . [ $T_2 = 23.6$  lb,  $T_1 = 47.0$  lb]



6. The 270.0 lb ball rests in a V-shaped, frictionless crevice. Find  $F_1$  and  $F_2$ . [ $F_1 = 258$  lb,  $F_2 = 185$  lb]



7. Find  $T$  in each picture below. [a: 19.7 N, b: 5.1 lb; c: 30 N]



8. Find  $T$  in each picture below. [a: 20 lb; b: 73.2 N; c: 32.2 lb]

