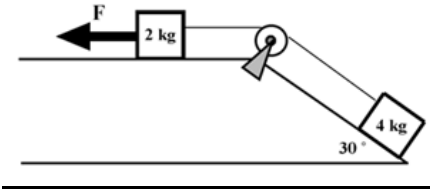


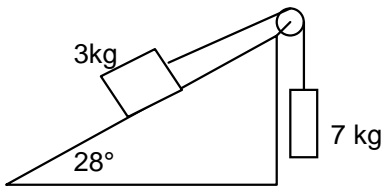
## Frictionless Incline Problems 2

### Solve the following problems

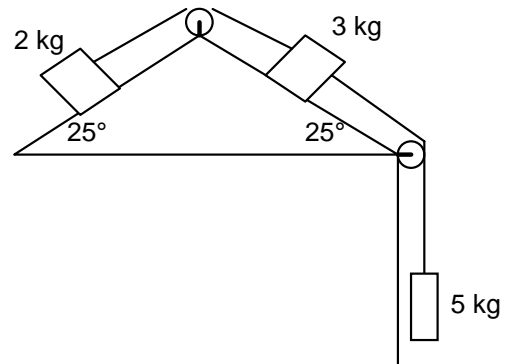
1. Calculate the force  $F$  that is needed to accelerate the system below at  $4 \text{ m/s}^2$  to the left. What is the resulting tension in the string?



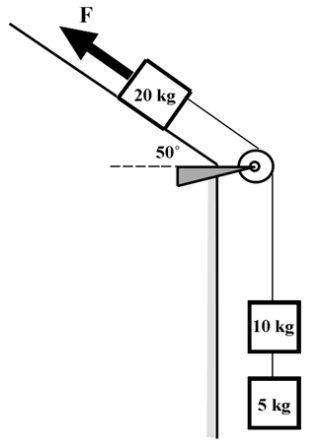
2. Determine the acceleration of each mass and the tension in the string. Assume a frictionless surface



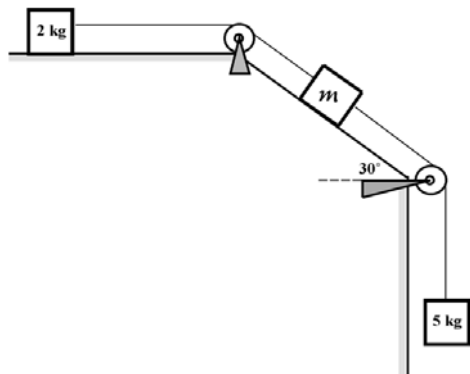
3. Determine the acceleration of each mass and the tension in each string. Assume a frictionless surface.



4. Calculate the force required to accelerate the system at  $2\text{m/s}^2$  to the left.



5. Calculate the mass of the box and the tension in each string if the system accelerates at  $5\text{m/s}^2$  to the right.



6. What is the acceleration of the system below?

