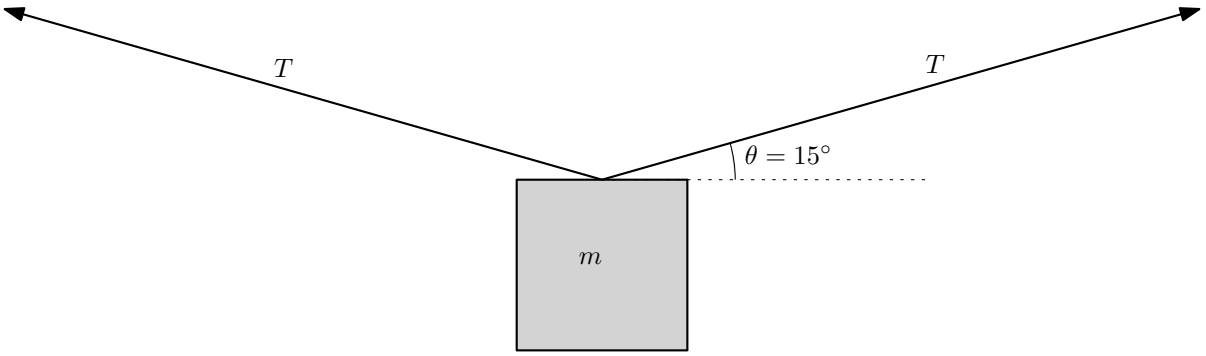
$$\sum F = ma \qquad\qquad F_f = \mu F_\perp$$

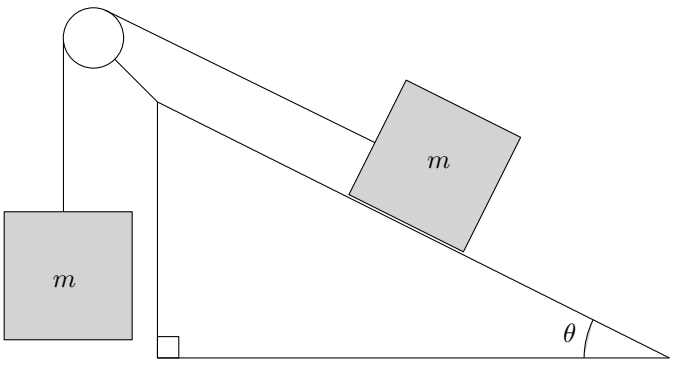
1. A mass of 25 kg is hanging in the center of a clothesline.

   (a) What is the force of gravity on the mass?

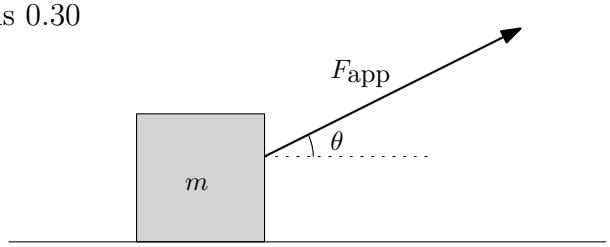
   (b) What is the tension in each part of the line?



2. Consider the following frictionless inclined plane and pulley system. If $\theta = 28°$ and each mass is 15 kg, what is the acceleration of the system? (Be sure to include direction)



3. A mass is being dragged by a force of 24 N at an angle $\theta = 20°$, and the coefficient of friction between the two surfaces is 0.30



- What is the normal force on the mass?

- What is the acceleration of the mass?

4. Find the expression for the acceleration of this system given that the coefficient of friction is μ