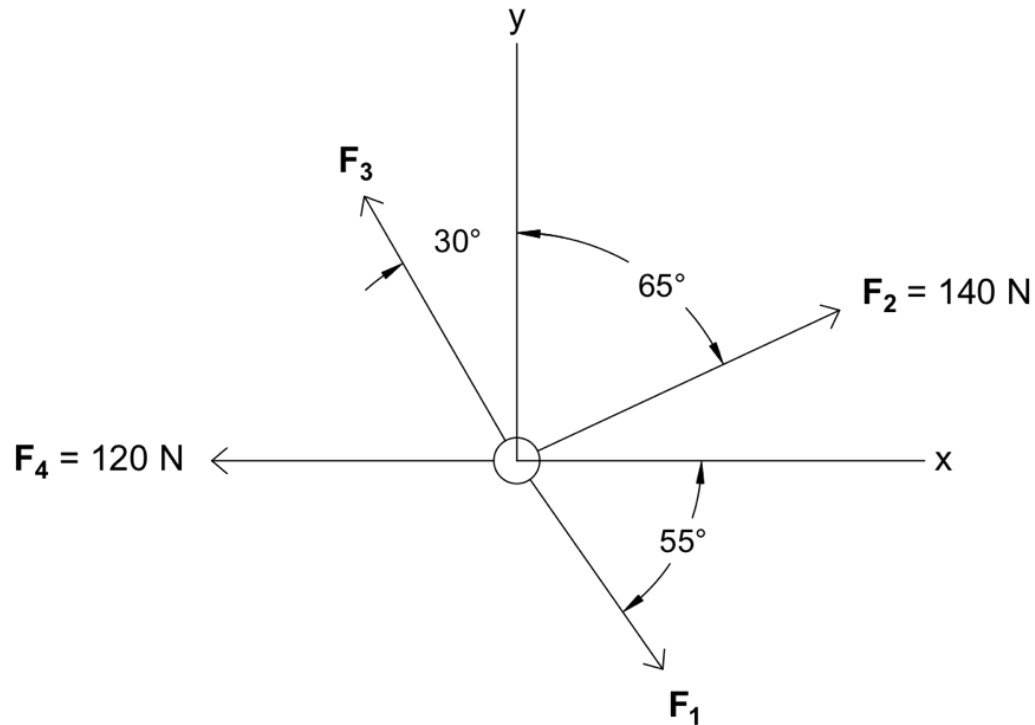
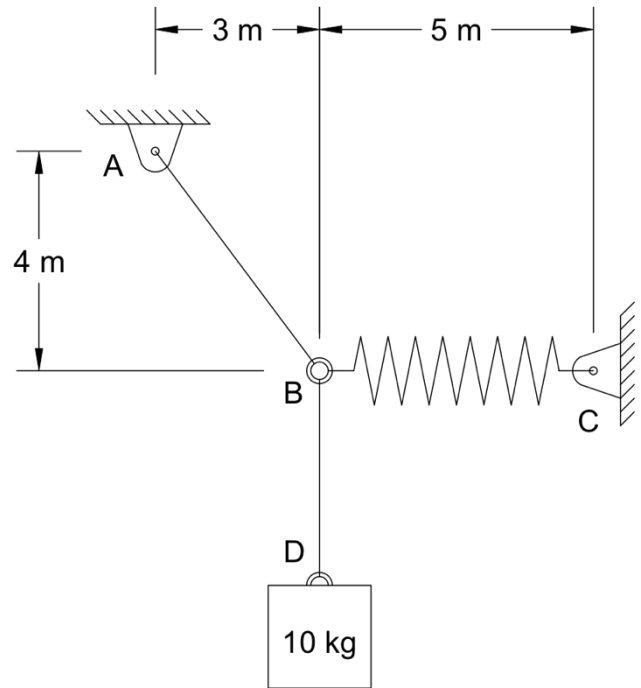


1. In your own words, explain the difference between equilibrium and static equilibrium.
2. Explain the equation of equilibrium ($\Sigma \mathbf{F} = \mathbf{0}$) in your own words.
3. The particle is in equilibrium and is subjected to the four forces shown. Determine the magnitude of \mathbf{F}_1 and \mathbf{F}_3 .



4. Cable AB, spring BC and a 10-kg crate are all attached to a ring at point B. The unstretched length of spring BC is 3.5 m.
- Draw a FBD of the crate
 - Draw a FBD of the ring at B
 - Determine the force in cable AB
 - Determine the spring constant k



5. Cable AB, cable and pulley system BEF, and a crate are all attached to a ring at point B. A 500 lb. force is applied at F to keep the system in equilibrium.
- Draw a FBD of the ring at B
 - Determine the force in cable AB
 - Determine the weight of the crate

