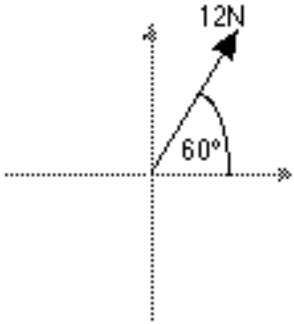
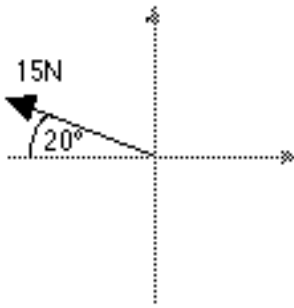
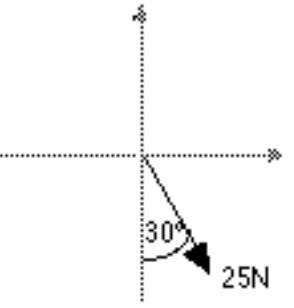
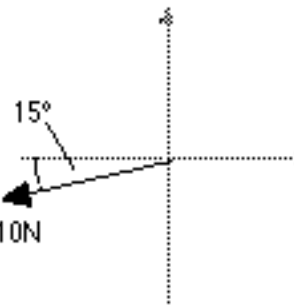
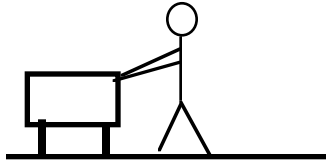


## UNIT IV: Worksheet 2

Determine the x and y components of each of the force vectors below. Show work.

1. 	
2. 	
3. 	
4. 	

5.



A person pulls on a 50 kg desk with a 200N force acting at  $30^\circ$  angle above the horizontal. The desk does not budge.  
Draw a force diagram for the desk.

- a. Write the equation that describes the forces which act in the x-direction.
  
  
  
  
  
  
  
  
  
  
- b. Write the equation which describes the forces which act in the y-direction.
  
  
  
  
  
  
  
  
  
  
- c. Determine the x and y components of the force of tension.
  
  
  
  
  
  
  
  
  
  
- d. Determine the value of the frictional force. Do the same for the normal force.
  
  
  
  
  
  
  
  
  
  
6. Suppose in the diagram above, the person were *pushing* down at a  $30^\circ$  angle with 200 N of force. The desk still does not move.  
Draw a force diagram for the desk.

  - a. Write the equation that describes the forces which act in the x-direction.
  
  
  
  
  
  
  
  
  
  
  - b. Write the equation that describes the forces which act in the y-direction.
  
  
  
  
  
  
  
  
  
  
  - c. Determine the value of the frictional force. Do the same for the normal force.