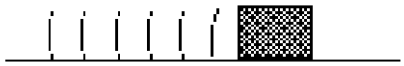
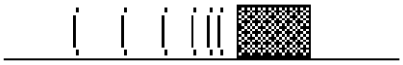
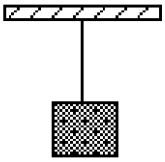
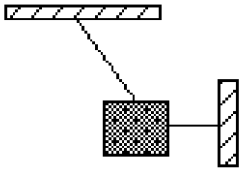
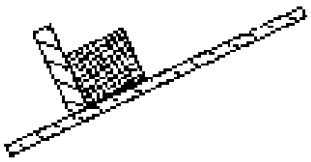
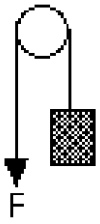
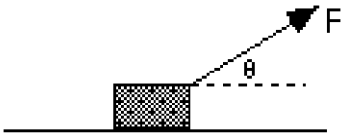
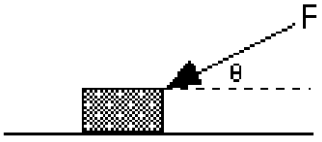
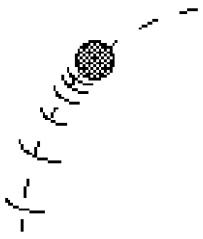
Name_____

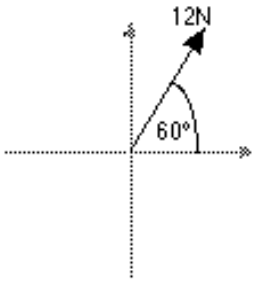
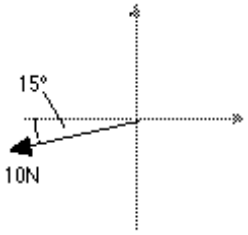
Date _____ **Pd**____

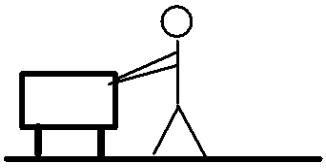
UNIT II: Worksheet 1

In each of the following situations, represent the object with a particle. Sketch all the forces acting upon the object, making the length of each vector represent the magnitude of the force.

1. Object slides at constant speed without friction. 	2. Object slows due to kinetic friction. 
3. Object slides without friction. 	4. Static friction prevents sliding. 
5. An object is suspended from the ceiling. 	6. The object is motionless. 
7. The object is motionless. 	8. The object is pulled upward at constant speed. 
9. The object is pulled by a force at an angle to the surface. 	10. The object is pushed by a force applied downward at an angle. 
11. The object is falling at constant (terminal) velocit 	12. The ball is rising in a parabolic trajectory. 

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



14.

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

a. Write the equation that describes the forces that act in the x-direction.

b. Write the equation that describes the forces which act in the y-direction.

c. Determine the x and y components of the force of tension.

d. Solve for the value of the frictional force. Do the same for the normal force.