

Forces Homework 1

Name: _____

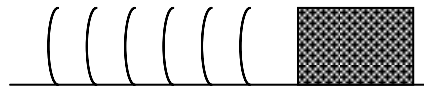
Hour: _____ Date: _____

In each of the following situations, represent the object with a "dot". Use arrows to sketch all forces acting upon the object. Make the length of the arrow representative of the strength of the force. Label each force with the name of the object supplying the force.

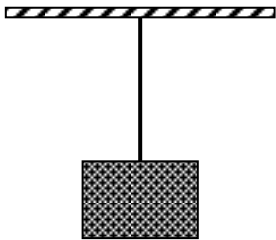
1. Object lies motionless.



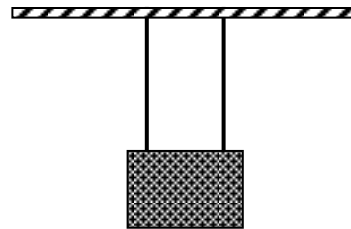
2. Object slides at a constant speed without friction.



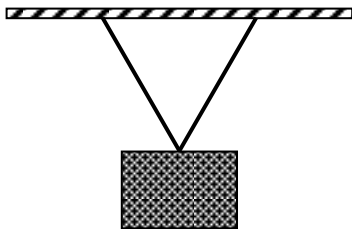
3. Object hanging from a support by a string.



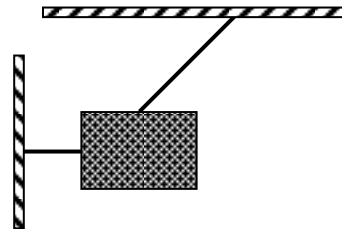
4. Object hanging from a support by 2 parallel strings.



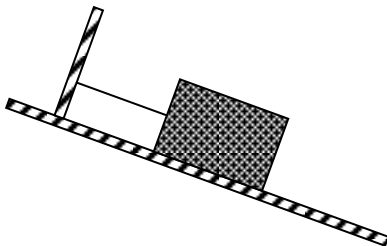
5. Object hanging from a support by 2 strings.



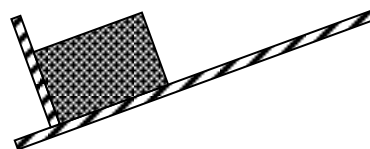
6. The object is motionless.



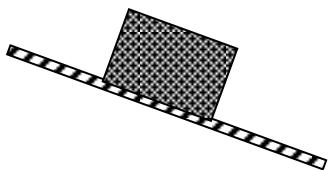
7. The object is motionless.



8. The object is motionless.



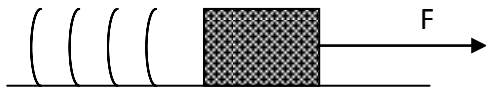
9. The object is motionless due to friction.



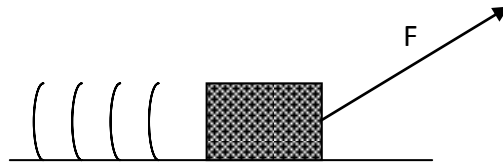
10. An object falls with a constant speed due to air friction.



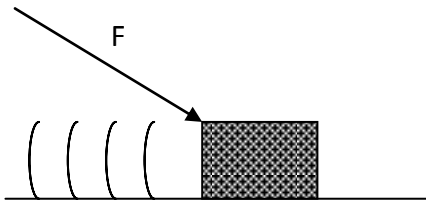
11. The object is pulled at a constant velocity along a frictionful surface.



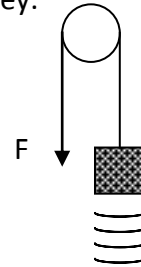
12. The object is pulled at a constant velocity along a frictionful surface at an angle with the horizontal.



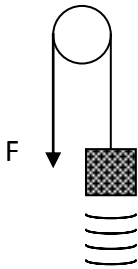
13. The object is pushed at a constant velocity along a frictionful surface at an angle with the horizontal.



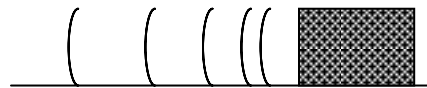
14. The object is pulled upward at a constant speed by a string over a pulley.



15. The object is lowered at a constant speed by a string over a pulley.



16. The object is sliding across a frictionful surface and slowing down.



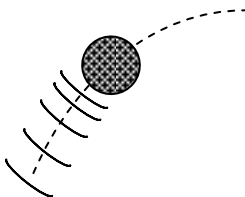
17. The object is pulled along a frictionless surface speeding up.



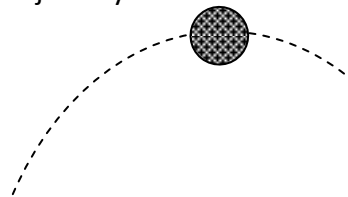
18. The object falls with no air resistance speeding up.



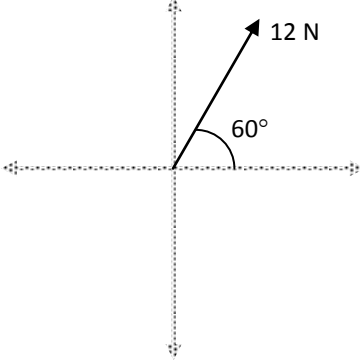
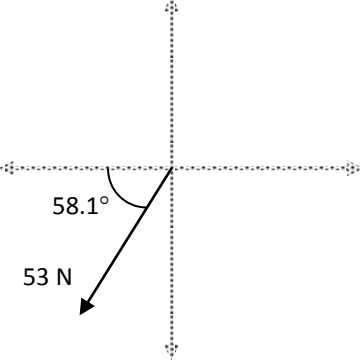
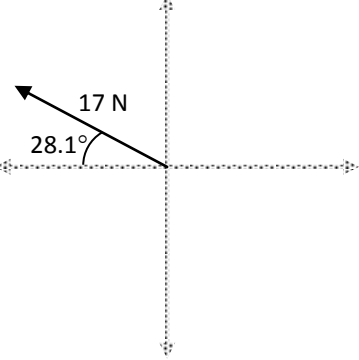
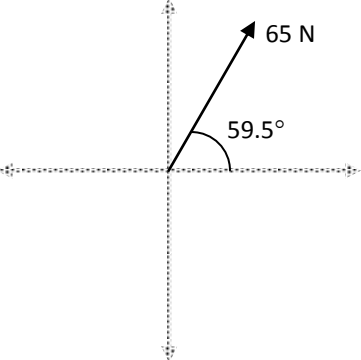
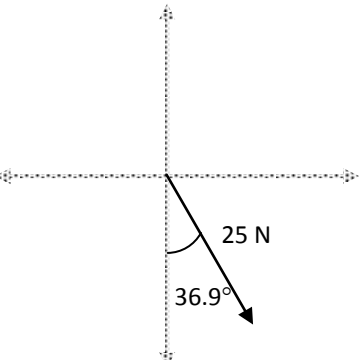
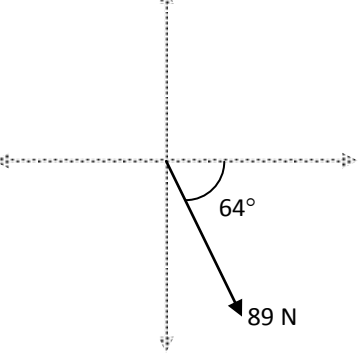
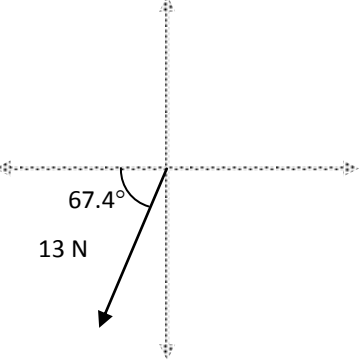
19. A ball is rising in a parabolic trajectory and slowing.



20. A ball is STOPPED at the top of its parabolic trajectory.



In each of the following, draw and determine the values of the horizontal and vertical components of each force arrow. Show your work.

<p>1.</p> 	<p>5.</p> 
<p>2.</p> 	<p>6.</p> 
<p>3.</p> 	<p>7.</p> 
<p>4.</p> 	<p>8.</p> 