




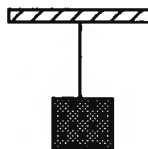
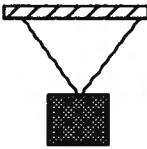
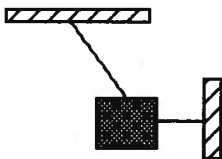
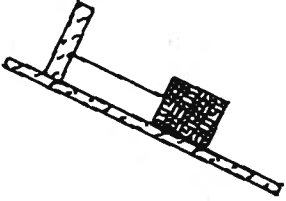



Forces & Free-Body Diagrams : Worksheet

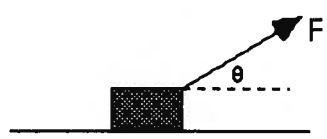
In each of the following situations, represent the object with a particle. Sketch all the forces acting upon the object, making the length of each vector represent the magnitude of the force.

<p>1. Object lies motionless.</p> 	<p>2. Object slides at constant speed without friction</p> 
<p>3. Object slows due to kinetic friction.</p> 	<p>4. Object slides without friction.</p> 
<p>5. Static friction prevents sliding.</p> 	<p>6. An object is suspended from the ceiling.</p> 
<p>7. An object is suspended from the ceiling.</p> 	<p>8. The object is motionless.</p> 
<p>9. The object is motionless.</p> 	<p>10. The object is motionless.</p> 

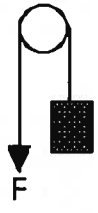
11. The object is pulled by a force parallel to the surface.



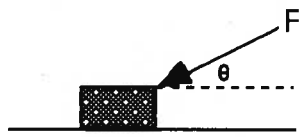
12. The object is pulled by a force at an angle to the surface..



13. The object is pulled upward at constant speed.



14. The object is pushed by a force applied downward angle.



15. The object is falling (no air resistance).



16. The object is falling at constant (terminal) velocity



17. The ball is rising in a parabolic trajectory.



18. The ball is at the top of a parabolic trajectory.

