

Free Body Diagrams

1. Object lies motionless.

FBD



2. Object slides at constant speed without friction

FBD



3. Object slows due to kinetic friction.

FBD



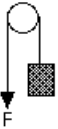
4. The object is pulled by a force parallel to the surface with friction.

FBD



5. The object is pulled upward at constant speed.

FBD



6. An object is suspended from the ceiling.

FBD



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

FBD



8. The ball is rising in a parabolic trajectory. No air resistance

FBD



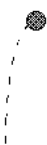
9. The object is falling at constant velocity due to friction

FBD



10. The ball is at the top of a parabolic trajectory. No air resistance.

FBD



11. Object slides without friction.

FBD

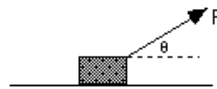
FBD comp.



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

FBD

FBD comp



13. Static friction prevents sliding.

FBD

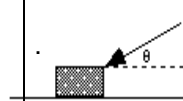
FBD comp



14. The object is pushed by a force applied downward at an angle and moves at a constant speed.

FBD

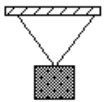
FBD comp



15. An object is suspended from the ceiling.

FBD

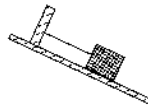
FBD comp



16. The object is motionless.

FBD

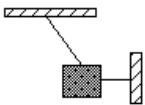
FBD comp



17. The object is motionless.

FBD

FBD comp



18. The object is motionless.

FBD

FBD comp

