Name _____ Date _____
Regents Physics Chapter 4 Forces

Practice Drawing Free-body Diagrams

Directions: Construct free-body diagrams for the various situations described below.

1. A book is at rest on a table top. Diagram the forces acting on the book.

2. A girl is suspended motionless from a bar which hangs from the ceiling by two ropes. Diagram the forces acting on the girl.

3. A flying squirrel is gliding (no *wing flaps*) from a tree to the ground at constant velocity. Consider air resistance. Diagram the forces acting on the squirrel.

4. A rightward force is applied to a book in order to move it across a desk with a rightward acceleration. Consider frictional forces. Neglect air resistance. Diagram the forces acting on the book.

5. A rightward force is applied to a book in order to move it across a desk at constant velocity. Consider frictional forces. Neglect air resistance. Diagram the forces acting on the book.

6. A college student rests a backpack upon his shoulder. The pack is suspended motionless by one strap from one shoulder. Diagram the vertical forces acting on the backpack.

7. A skydiver is descending with a constant velocity. Consider air resistance. Diagram the forces acting upon the skydiver.

8. A force is applied to the right to drag a sled across loosely-packed snow with a rightward acceleration. Diagram the forces acting upon the sled.

9. A football is moving upwards towards its peak after having been *booted* by the punter. Diagram the forces acting upon the football as it rises upward towards its peak

10. A car is coasting to the right and slowing down. Diagram the forces acting upon the car.