

Students should be able to:

1. Compare and contrast mechanics, dynamics, and kinematics.
2. Compare and contrast mass and weight.
3. Compare and contrast inertial mass and gravitational mass.
4. Distinguish between mass and inertia.
5. Identify the MKS unit for mass.
6. Identify the properties of mass.
7. State Newton's three laws of motion.
8. Define the unit of force.
9. Apply Newton's laws in different situations and defend their use.
10. Solve problems with Newton's laws of motion (especially N2)
11. Identify "special forces"
 - weight
 - normal
 - tension
 - friction
12. Draw free body diagrams for a number of situations.
13. Define friction.
14. Define drag force.
15. Define terminal speed.
16. Compare and contrast sliding friction and standard friction.
17. Know the properties of sliding friction.
18. Solve problems including friction.
19. Explain why friction is necessary.
20. Explain anti lock brakes.
21. Demonstrate the principle of equivalence.
22. Solve problems using Atwood's machine.

Honors only