

## Physics 180 A Study Guide

I have decided that Test 2 will be over Chapter's 5, 6 and 7, only! I will review all three chapters on Tuesday. Be there. I have given complete solutions to many of these problems in class, already. You have also done many of these problems on Mastering Physics. Again, many of these problems below are quite similar.

### Chapter 5 - Applications of Newton's Laws

**Concepts:** Problem Solving Strategy 5.1, Sums of the Forces, Freebody Diagrams, Friction, Elastic Forces

**Figures:** 12, 19

**Examples:** 2, 3, 4, 5, 6, 8, 10, 11,12

**Concept Questions:** 1, 6, 10, 11, 12

**MC Questions:** 1,3, 4, 5, 6, 11, 13

**Basic Problems:** 1, 2, 4, 5, 30, 31, 54, 55

**Medium Problems:** 11, 12, 14, 15, 16, 21, 23, 29, 35, 36, 41, 46, 48, 67, 86

### Chapter 6 - Circular Motion and Gravitation

**Concepts:** Forces in Circular Motion, Motion in a Vertical Circle, Newton's Law of Gravitation, Weight, Kepler's Laws

**Figures:** 2, 4, 5, 8, 13, 15, 19

**Examples:** 1, 2, 3, 58, 9, 10

**Concept Questions:**

**MC Questions:**

**Basic Problems:** 2, 7, 10, 14, 16, 19, 26, 33, 34

**Medium Problems:** 11, 12, 30, 44, 49, 53, 60, 62, Mass of Sun, Earth, Galaxy from Kepler's Law

### Chapter 7 - Work and Energy

**Concepts:** Energy, Conservation of Energy, Work, Kinetic Energy, Potential Energy,

**Figures:** 17, 22, 25, 34,

**Examples:** 1, 2, 3, 4, 7, 8

**Conceptual Analysis:** 1, 2, 4, 5,

**Concept Questions:**

**MC Questions:** 6, 7, 8, 9, 10, 11, 12, 14

**Basic Problems:** 1, 2, 4, 5, 6, 7, 12, 13, 25, 30, 31, 42, 43, 55, 56, 57

**Medium Problems:** 9, 11, 19, 23, 26, 48, 50, 51, 80, 83, 85, 88, 97, 98, 102, 111