

## Chem 20 Test 1 Study Guide

### TRO 3rd Edition

Note: The answers to all suggested review problems are in the back of the book

#### You will be given:

Any conversion factors you need

A list of the metric prefixes

A table of densities

#### Memorize-

Density = mass/volume

Heat = mass x specific heat x change in Temperature

#### Topics

Chapter 1- all sections

1. Understand the scientific method
2. Define the terms hypothesis, scientific law, and theory **Problems to review on this topic**  
**Chapter 1 # 7, 9, 13**

Chapter 2 – all sections

1. Know how to convert numbers in and out of scientific notation: **Chapter 2 # 29, 35**
2. Know how to round numbers to significant figures when doing multiplication/division (sig figs), addition/ subtraction (decimal places) or a problem with both multiplication/ division and addition/subtraction **Chapter 2 # 55, 59, 63**
3. Know the proper way to estimate when reading a measuring device **chapter 2 # 39 a, b, d only**
4. Be able to do problems converting between the English and Metric system **Chapter 2 # 71 ( note 1 yard = 3 feet)**
5. Be able to do problems converting with squared or cubic units **Chapter 2 # 91**
6. Be able to do problems converting using the metric prefixes **Chapter 2 # 77**
7. Be able to do problems converting with mixed units **Chapter 2 # 103, 111**
8. Be able to use the density equation to solve for mass, volume or density when given the other two. **Chapter 2 # 93, 97, 99, 109**

Chapter 3 - all sections except 3.9

1. Be able to classify matter as an element, compound, homogeneous mixture, or heterogeneous mixture **Chapter 3 # 31, 33**
2. Understand the differences between a solid, liquid and gas

3. Be able to determine if a change is a physical change or chemical change **Chapter 3 # 39, 41**
4. Understand the difference between heat and Temperature
5. Be able to covered between the Fahrenheit, Celsius, and Kelvin **Chapter 3 # 63**
6. Be able to use the equation  $\text{Heat} = \text{mass} \times \text{specific heat} \times \text{change in Temperature}$  to solve mathematical problems. **Chapter 3 # 71, 73, 75, 81, 91**