Percentages, Ratios,

Calculations Book (chapters 1, 6)

Objectives:

The students should be able to

1. Apply **ratios and percentages** in pharmaceutical calculation
2. Understand the use of units, units conversion and demonstrate a clear understanding of the **dimensional analysis method**
3. Apply **estimation** to predict and confirm pharmaceutical calculations
4. Understand and calculate **significance figures** and ranges of accepted limits
5. Convert **percentage** w/w to w/v and vice versa
6. Perform prescription calculations based on **ratio strength and percentage strength**

Reading

Chapter 6 : Page 83-96

Percentages w/w, w/v, v/v, ratio strength and specific gravity

Also please have a copy of table 2.3, and 4.2 with you during our sessions as we will use them

You need to know the following for the iRAT

Ratios

The relative magnitudes of two quantities. Mostly expressed as quotient.
2:1, read as 2 to 1 not 2.

You should be able to solve similar problems

Problem 1
30 grams of sulfur were incorporated into 300 grams of cream. What is the ratio of sulfur: cream base? What is the **ratio strength** of sulfur in the above cream?

Problem 3
Rx

Calamine		8g
Zinc oxide		8g
Glycerin		2mL
Bentonite magma		30mL
Lime water	qsad	100mL

Express the concentration of calamine as (**ratio strength**) 1:Z. What is the ratio of calamine to zinc oxide?

Ratios strength default rules

Ratio of solid or semisolid ingredient in solid or semisolid dosage form (W/W)
Ratio of solid or semisolid ingredient in liquid dosage form (W/V) not gram/ml
Ratio of liquid ingredient in liquid dosage form (V/V)

Examples

Iodine solution 1:1000……/……
Sulfur cream 1:4……/……
ZnO suspension 1:5……/……