

## MAT 142: College Mathematics

### Lecture Notes: Section 10.5

#### 10.5: The Metric System and Dimensional Analysis:

The metric measurement system:

Basic Units:

Prefixes:

kilo (k)	hecto (h)	deka (da)	Base Unit	deci (d)	centi (c)	milli (m)

Converting Units of Measurement in the Metric System:

a)  $2.67 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

b)  $56.3 \text{ mg} = \underline{\hspace{2cm}} \text{ dg}$

Using dimensional analysis and unit fractions to convert measurements:

Converting U.S. units:

$72 \text{ in.} = \underline{\hspace{2cm}} \text{ yds.}$

Converting between U.S. and Metric units: Use tables on pages 494, 495, and 497

a)  $18 \text{ m} = \underline{\hspace{2cm}} \text{ yds.}$

b)  $210 \text{ lbs.} = \underline{\hspace{2cm}} \text{ kg}$

c)  $2.1 \text{ kL} = \underline{\hspace{2cm}} \text{ gal.}$

d)  $77 \text{ degrees F} = \underline{\hspace{2cm}} \text{ degrees C}$

e)  $65 \text{ mph} = \underline{\hspace{2cm}} \text{ kmph}$