LABORATORY 9.1

Name _____ **Date** _____

Instructor _____ **Section** _____

Determining Ideal Body Weight Using Percent Body Fat and the Body Mass Index

There are several different ways to compute an ideal body weight. Method A of this laboratory enables you to compute and record your ideal body weight using skinfold measurements. (In Chapter 6 we discussed body fat percentage estimated from skinfold measurements.) Method B enables you to calculate and record your ideal body weight using the body mass index (BMI) procedure (Chapter 6). Choose one of these techniques, and complete the appropriate section.

METHOD A: COMPUTING IDEAL BODY WEIGHT USING PERCENT BODY FAT

STEP 1: Calculate fat-free weight

100% − your percent body fat estimated from skinfold measurement = ____ % fat-free weight

Therefore,

____ % fat-free weight expressed as a decimal × ____ your body weight in pounds **Calculate**

= 0 pounds of fat-free weight

STEP 2: Calculate optimal weight

Remember: Optimal body fat ranges are 8%–19% for men and 21%–32% for women. Optimal weight = fat-free weight ÷ (1.00 − optimal % fat), with optimal % fat expressed as a decimal. Therefore, the low and high optimal weight ranges for your gender are as follows:

For low %fat : Optimal weight ____pounds

For high %fat : Optimal weight ____pounds

METHOD B: COMPUTING IDEAL BODY WEIGHT USING BODY MASS INDEX (BMI)

The BMI uses the metric system. Therefore, you must express your weight in kilograms (1 kilogram = 2.2 pounds) and your height in meters (1 inch = 0.0254 meter).

STEP 1: Compute your BMI

$$\text{BMI} = \text{body weight (kg)} \div (\text{height in meters})^2$$

Your BMI = _____

STEP 2: Calculate your ideal body weight based on BMI

The ideal BMI is 21.9 to 22.4 for men and 21.3 to 22.1 for women. The formula for computing ideal body weight using BMI is

$$\text{Ideal body weight (kilograms)} = \text{Desired BMI} \times (\text{height in meters})^2$$

Consider the following example as an illustration of the computation of ideal body weight. A man who weighs 60 kilograms and is 1.5 meters tall computes his BMI to be 26.7. His ideal BMI is between 21.9 and 22.4; therefore, his ideal body weight range is as follows:

Low end range : 21.9 × 2.25 = 49.3 kilograms

High end of range: 22.4 × 2.25 = 50.4 kilograms

Now complete this calculation using your values for BMI.

My ideal body weight range using the BMI method is _____ to _____ kilograms.

Note: BMI may not be a good method to determine ideal body weight for a highly muscled individual.

To submit the completed lab, save the form to your computer and email it to your instructor or upload it to their digital dropbox as directed.