

Activity 3.2h Unit Conversion Homework

Complete each of the following, show your work on all problems.

1. Convert each of the following quantities to the indicated units. Use the appropriate number of significant figures to express your answer unless otherwise indicated.
 - a. 0.005098 Megaliters to liters. Record your answer in whole liters.
 - b. 57.2 inches to feet.
 - c. 4 ft – 6 $\frac{1}{2}$ in. to inches. Record your answer in fractional inches.
 - d. 6 ft – 9 inches to decimal feet. Record your answer to the nearest hundredth of a foot.
 - e. 935.6 inches to yards. Round your answer to the nearest hundredth of a yard.
 - f. 23.5 million nanometers to millimeters
 - g. 98.6 inches to meters.
2. The width of a strand of fiber is 19.2 micrometers. If 1500 strands are adhered side by side, how wide would the resulting fabric be if measured in centimeters?

3. You are planning to buy a new couch for your family room. Before you leave for the furniture store, you measure the available space and conclude that the couch should be between 5' - 10" and 6' - 8" long. At the store you find a couch that you like. The specification sheet on the couch indicates that the couch is 78 inches long.

a. What are the limits on the couch length in inches?

_____ to _____

b. What is the length of the couch in feet and inches? Hint: Convert the measurement to decimal feet first.

_____ ft _____ in

c. Will the couch fit into the available space?

4. Mr. Mooney is 67" tall. Record his height in feet and inches and then convert your height to meters and then to centimeters.

Feet-inches: _____ ft _____ in

Meters: _____

Centimeters: _____

5. [Challenge] You are hoping to receive a scholarship for volleyball and are entering your personal information and statistics on a secure website to be reviewed by recruiters. The website requires that you report your height in feet and inches to the nearest $\frac{1}{4}$ inch. You have a decimal tape measure and find that you are 5.89 feet tall. What height measurement will you report in order to honestly and accurately report your height?

_____ ft _____ in

6. The posted speed limit in many parts of Europe is 100 km/hr. What is the equivalent speed limit in miles per hour?