# ELEC SYSTEMS NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Review of Measurement**

## MEASUREMENT IN THE WORKPLACE

The accurate measuring of structural steel, trusses, rotors, body mass, hair, pastry dough, operating a Hoyer lift, amperes, fabric, etc. and other materials and machinery is vital to most professions. Jobs may require either English or metric units.

Metric measurements are expressed in decimal parts of a whole number, such as 0.1.



English measurements are expressed in fractional parts, such as 



Tolerance is the amount of variation permitted for a given dimension. Manufacturers are looking for an *acceptable* degree of accuracy. The greater the precision and accuracy of a piece of material, the greater the cost to manufacture.

To convert a fraction to a decimal, divide.

For example, ¼”=1÷4= 0.25

Convert the following fractions to decimals:

1) 1/16”=\_\_\_\_\_\_\_\_\_\_\_\_ 2) 1/8”=\_\_\_\_\_\_\_\_\_\_\_\_

3) 3/16”=\_\_\_\_\_\_\_\_\_\_\_\_\_ 4) 5/16”=\_\_\_\_\_\_\_\_\_\_\_\_\_

5) 3/8”=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6) 5/8”=\_\_\_\_\_\_\_\_\_\_\_\_\_

7) 7/16”=\_\_\_\_\_\_\_\_\_\_\_\_\_ 8) 9/16”=\_\_\_\_\_\_\_\_\_\_\_\_

9) 11/16”=\_\_\_\_\_\_\_\_\_\_\_\_\_ 10) 3/4”=\_\_\_\_\_\_\_\_\_\_\_\_\_

11) 13/16”=\_\_\_\_\_\_\_\_\_\_\_\_ 12) 15/16”=\_\_\_\_\_\_\_\_\_\_\_

Using the ruler or tape measure, find and record the correct measurement of the lines below in inches AND centimeters. Tolerance is ± 1/16” or 0.1 cm.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Using the ruler, draw a line with the given measurement.

1. ¾”
2. 1. 8 cm
3. 2.3 cm
4. 1 7/8”

1. 3 ¼”

APPS IN SEQ MATH

 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In finding area, perimeter, and volume of structures, it will be helpful to convert measurements to inches ONLY OR decimal feet ONLY. Remember when performing any calculations, it must be done in the SAME UNITS (inches-inches, feet-feet, ounces-ounces, etc.) SHOW ALL WORK.

Since 1’=12”, convert 9’3 ¾ ” to decimal feet ONLY.

*Part I: What part of a foot is 3 ¾ ”?* $\frac{3\frac{3}{4}}{12}$*=0.3125*

*Part II:Rewrite 9’ 3 ¾”= 9.3125’*

Convert the following measurement in inches to FEET ONLY.

1. 1”= $\frac{1}{12}$=
2. 2”=\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. 3”=\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. 4”=\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. 5”=\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. 6”=\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. 7”=\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. 8”= \_\_\_\_\_\_\_\_\_\_\_\_\_
9. 9”=\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. 10”=\_\_\_\_\_\_\_\_\_\_\_\_\_
11. 11”=\_\_\_\_\_\_\_\_\_\_\_\_\_
12. 12”=\_\_\_\_\_\_\_\_\_\_\_\_\_
13. Convert 4’2” to decimal feet ONLY=
14. Convert 24.5 inches to feet ONLY=
15. Convert 3’9” to decimal feet only=
16. Convert 45 inches to decimal feet only=

 Bath 6’4”

10’6”

1. A bathroom is 10’6” by 6’4”. Find the perimeter of the room to purchase molding.
2. A bathroom is 10’6” by 6’4”. Find the area of the room to purchase flooring.

APPS IN SEQ MATH NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Measure THREE of the six objects in inches AND centimeters as follows:

1. Object “A” is a three-dimensional rectangular piece of wood (shelf brace).

Length =\_\_\_\_\_\_\_\_\_\_\_\_ Width= \_\_\_\_\_\_\_\_\_\_ Height=\_\_\_\_\_\_\_\_\_ (inches)

 Length = \_\_\_\_\_\_\_\_\_\_\_\_ Width=\_\_\_\_\_\_\_\_\_\_ Height=\_\_\_\_\_\_\_\_\_ (cm)

1. Object “B” is a three-dimensional rectangular piece of wood (a section of a 2 by 4).

Length=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Width=\_\_\_\_\_\_\_\_\_ Height=\_\_\_\_\_\_\_\_\_\_\_ (inches)

 Length=\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Width=\_\_\_\_\_\_\_\_\_ Height=\_\_\_\_\_\_\_\_\_\_\_\_ (cm)

1. Object “C” is a three-dimensional sample piece of cork flooring.

Length =\_\_\_\_\_\_\_\_\_ Width=\_\_\_\_\_\_\_\_ Height=\_\_\_\_\_\_\_\_\_\_\_\_\_ (inches)

 Length = \_\_\_\_\_\_\_\_\_ Width=\_\_\_\_\_\_\_\_ Height=\_\_\_\_\_\_\_\_\_\_\_\_\_ (cm)

1. Object “D” is a three-dimensional circular piece of cardboard (end of duct tape roll).

Outside diameter=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Inside diameter=\_\_\_\_\_\_\_\_\_\_\_ (inches)

 Outside diameter=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Inside diameter=\_\_\_\_\_\_\_\_\_\_\_(cm)

1. Object “E” is a three-dimensional circular PVC plumbing tube.

Outside diameter=\_\_\_\_\_\_\_\_\_\_\_\_\_ Inside diameter =\_\_\_\_\_\_\_\_\_\_ (inches)

 Outside diameter=\_\_\_\_\_\_\_\_\_\_\_\_\_ Inside diameter=\_\_\_\_\_\_\_\_\_\_\_(cm)

1. Object “F” is a three-dimensional circular rubber gasket (drain fitting).

Outside diameter=\_\_\_\_\_\_\_\_\_\_\_ Inside diameter=\_\_\_\_\_\_\_\_\_\_\_\_ (inches)

 Outside diameter=\_\_\_\_\_\_\_\_\_\_\_ Inside diameter=\_\_\_\_\_\_\_\_\_\_\_\_ (cm)