Architecture Basics & Scaling

January 3, 2014

Name:_____Period:_____

Measurements

1. What instrument(s) can be used to measure objects? **Whatever is handy (ruler, book, arm)**

2. Draw lines in the space provided with the designated lengths.

   a. 2-7/8 inches

   b. 9/16 inch

   c. 1-5/8 inches

   d. 3-1/2 inches

3. Measure the following line segments and record your measurements in the space provided. Round your measurements to the nearest 1/16 inch.

   a.
   1-5/16”

   b.
   8/16”

   c.
   2-3/16”

   d.
   1”

Scale Drawings

1. What is the most common scale used by architects? Quarter scale (1/4" = 1 foot)

2. Using the scale 1/8 inch = 1 foot, complete the following:

   a. Draw a line segment that represents a length of 12 feet.

   b. 1-7/8 inches represent how many feet?
   15 ft

3. Using the scale 1/4 inch = 1 foot, find the actual length in feet represented by the following lengths on the drawing:

   a. 3 inches 12 ft

   b. 2-1/4 inches 9 ft

   c. 4-3/4 inches 19 ft

4. Make a scale drawing of a rectangular shaped room whose dimensions are 14 feet by 24 feet. You may choose the scale.

   See chosen scale and drawing

Ratios

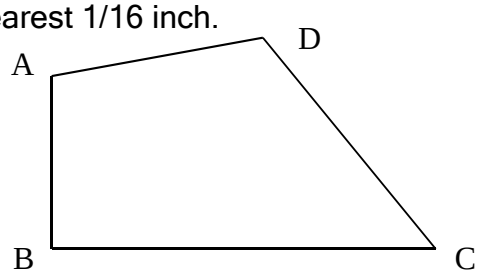
1. If segment AB is 1 inch long and segment CD is 2 inches long, express in three different ways the ratio of AB to CD.

   a. 1:2

   b. 1 to 2

   c. 1/2

2. Using a ruler measure line segments AB, BC, CD, and DA. Round your measurements to the nearest 1/16 inch.



   AB = __7/8"___ BC = ___2"_____

   CD = __1-7/16"_____ DA = ___1-1/8"_____

3. Using the measurements above, write the following ratios:

   a. AB:BC 7/8" : 2"

   b. AB:CD 7/8" : 1-7/16"

   c. DA:BC 1-1/8" : 2"

4. Find the ratio of the first quantity to the second. *(REMEMBER: both measurements must be in the same units before they can be made into a ratio.)*

   a. 3 ft. to 6 yd. 3 ft to 18 ft OR 1 ft to 6 ft OR 1 yd to 6 yd

   b. 4.5 in. to 3-1/4 yd. .125 yd to 3.25 yd OR 4.5 in to 117 in

   c. 1/2 ft. to 54 in. 6 in to 54 in OR 0.5 ft to 4.5 ft

Proportions

1. Is $\frac{2}{3} = \frac{5}{7}$ a proportion? **No**

2. Find the missing term. $\frac{4}{7} = \frac{x}{35}$ **x = 20**

3. Find the missing term. $\frac{3}{12} = \frac{4}{x}$ **x = 16**

4. Write three proportions.

   a. —— = —— **See work**

   b. —— = —— **See work**

   c. —— = —— **See work**