

Introduction to Drafting and Design

Reading Architectural Drawings

Using the Architects' Scale



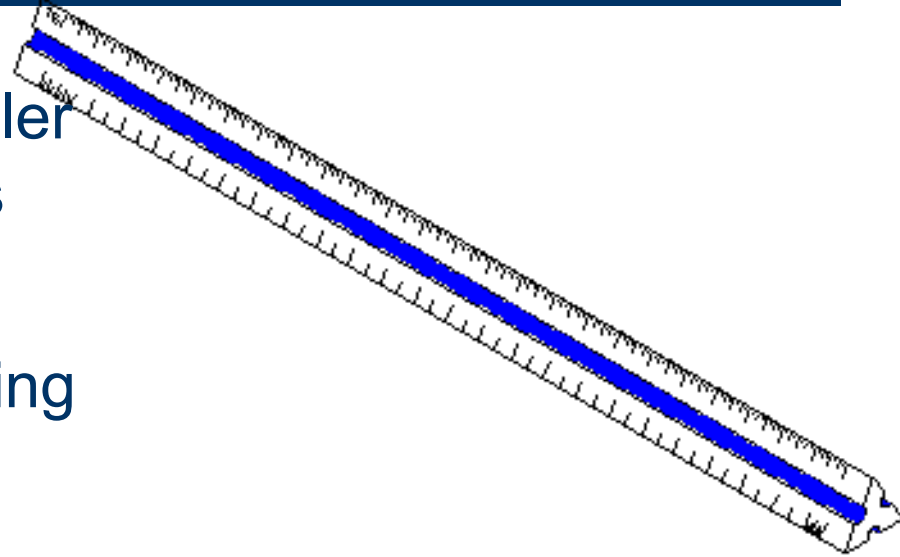
Drawing to Scale – Why?

- 
- ◆ To represent large objects (buildings, rooms, equipment) accurately on paper
 - ◆ Helps you understand the relative location of objects such as equipment, aisle widths, etc.
 - ◆ To insure that objects “fit”
 - ◆ Used by contractors to build the facility and install the equipment

The Architect's Scale

§ Looks like a triangular ruler with three separate edges

§ Not used for drawing straight lines, but for reading and drawing “to scale”



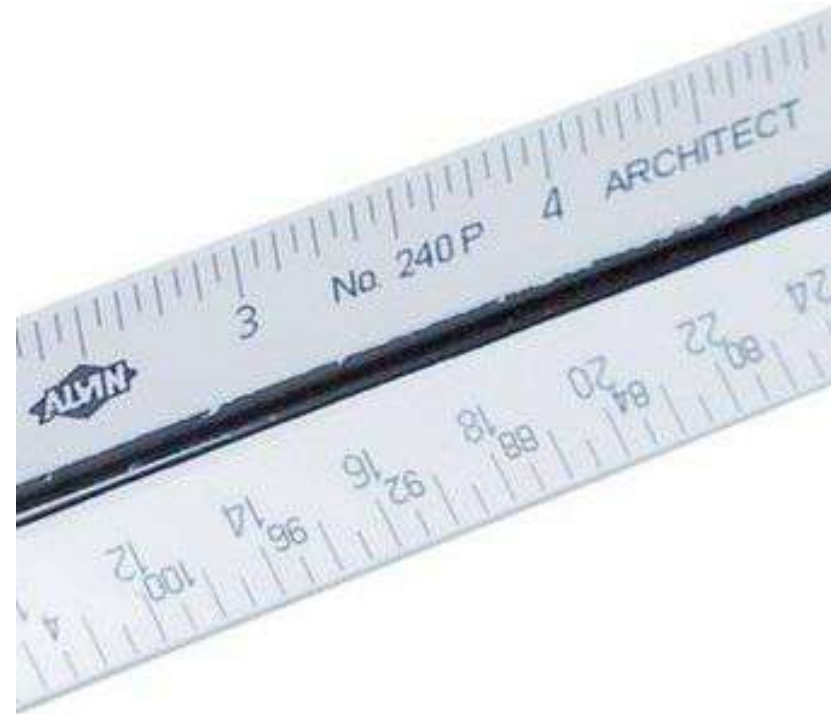
“Never Never” Rules*

- Never mark on the scale
- Never hit/bang the scale on anything
- Never touch the compass to the scale
- Never use the scale as a straight edge

*Modification added by Ms. Christina L. Holley, Ola High School, GA, January 2017

16 side

- Each inch is divided into 16 equal sections
- Full scale $\rightarrow 12''=1'0''$
 - $4'' = 4''$
 - If the measurement is 4'' you draw 4''
- Half scale $\rightarrow 6''=1'0''$
 - $4'' = 2''$
 - If the measurement is 4'' you draw 2''

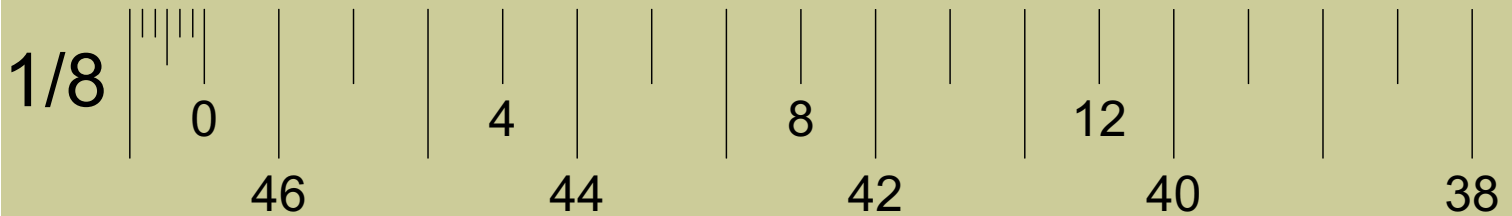


Scale vs size

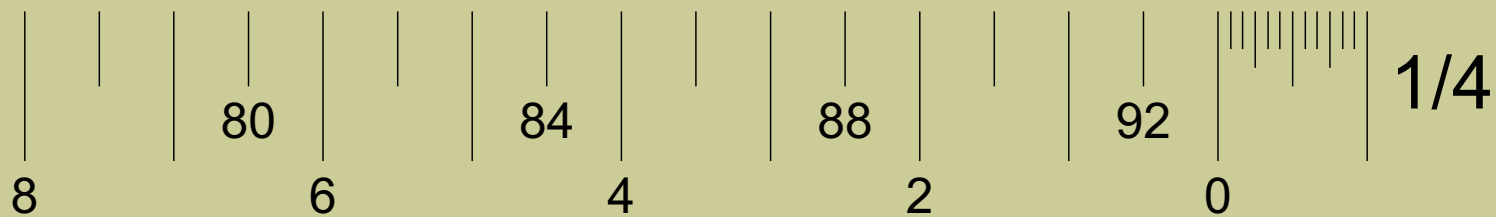
◆ 3" = 1'0"	1/4 Size
◆ 1 1/2" = 1'0"	1/8 Size
◆ 1" = 1'0"	1/12 Size
◆ 1/2" = 1'0"	1/24 Size
◆ 1/4" = 1'0"	1/48 Size
◆ 1/8" = 1'0"	1/96 Size
◆ 3/4" = 1'0"	1/16 Size
◆ 3/8" = 1'0"	1/32 Size
◆ 3/16" = 1'0"	1/64 Size
◆ 3/32" = 1'0"	1/128 Size

The Architect's Scale

The left side begins with 1/8" scale .

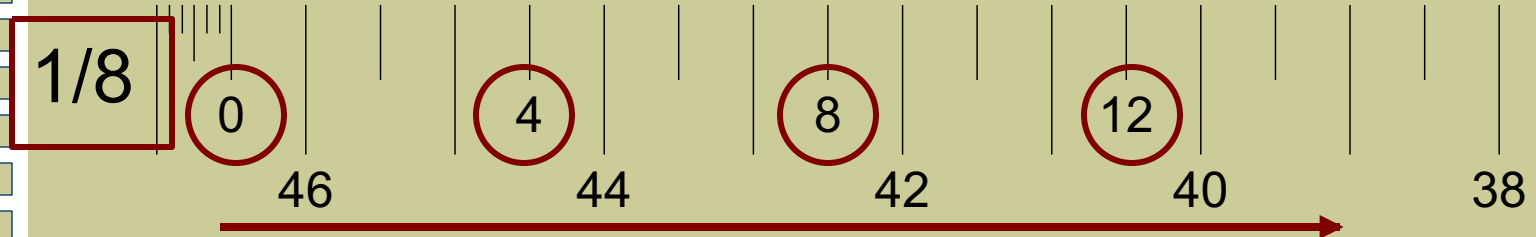


and the right side begins with 1/4" scale

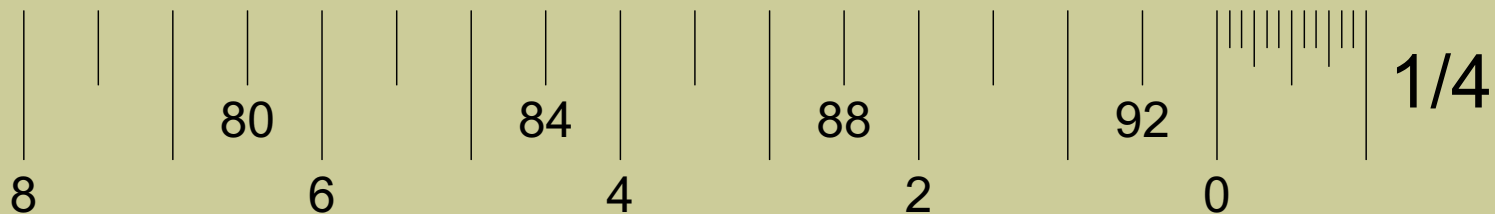


The Architect's Scale

The left side begins with 1/8" scale .

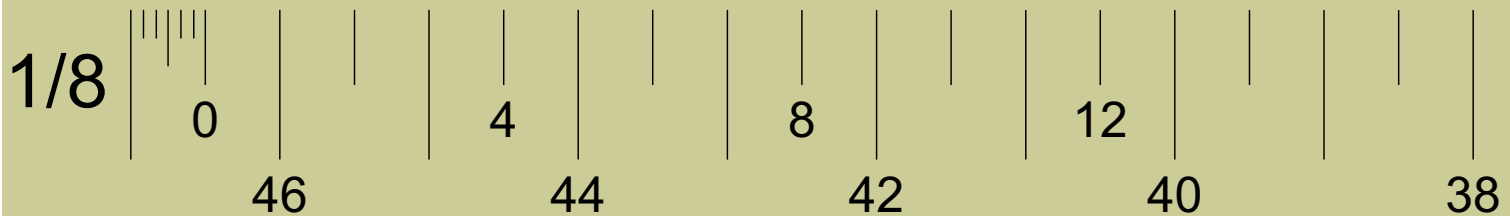


At 1/8" scale, read from left to right following the upper numbers
and the right side begins with 1/4" scale

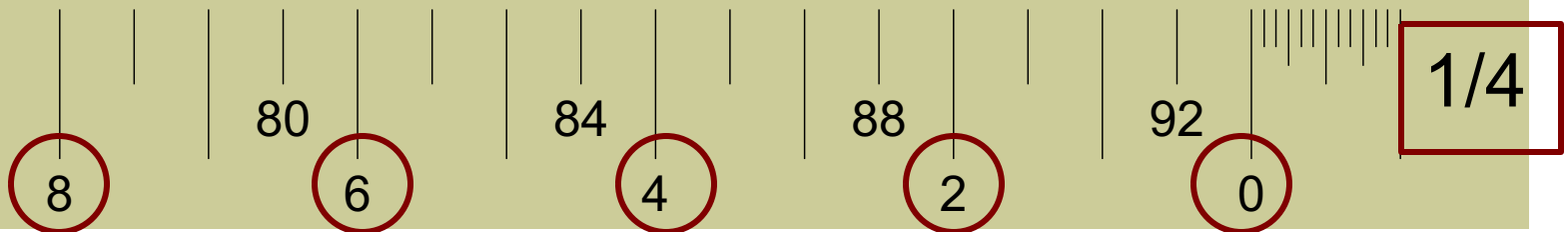


The Architect's Scale

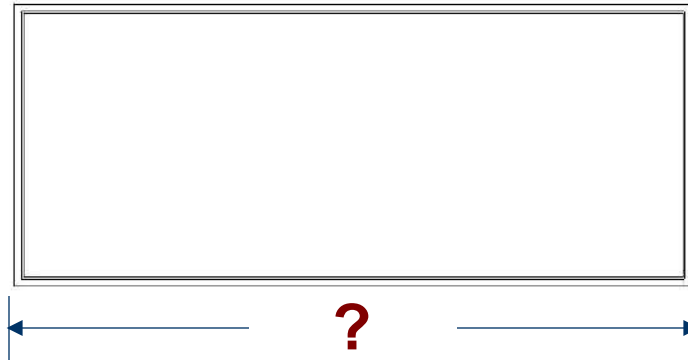
The left side begins with 1/8" scale .



At 1/4" scale, read from right to left following the lower numbers and the right side begins with 1/4" scale



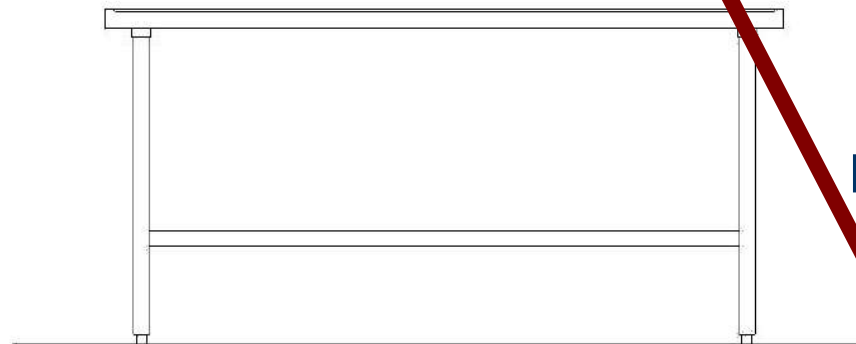
Example: Measuring the Length of a Work Table



Plan View

We want to know the length of the table

First, note the scale of the drawing

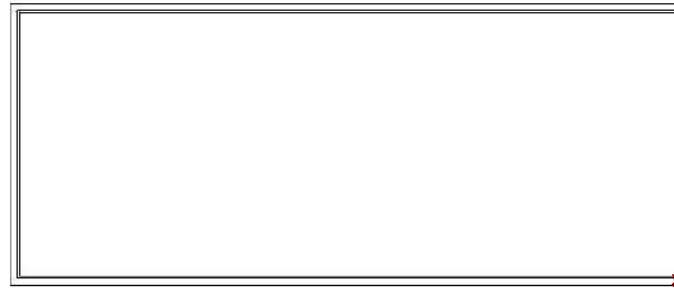


Front Elevation

Scale: $\frac{1}{4}" = 1'$

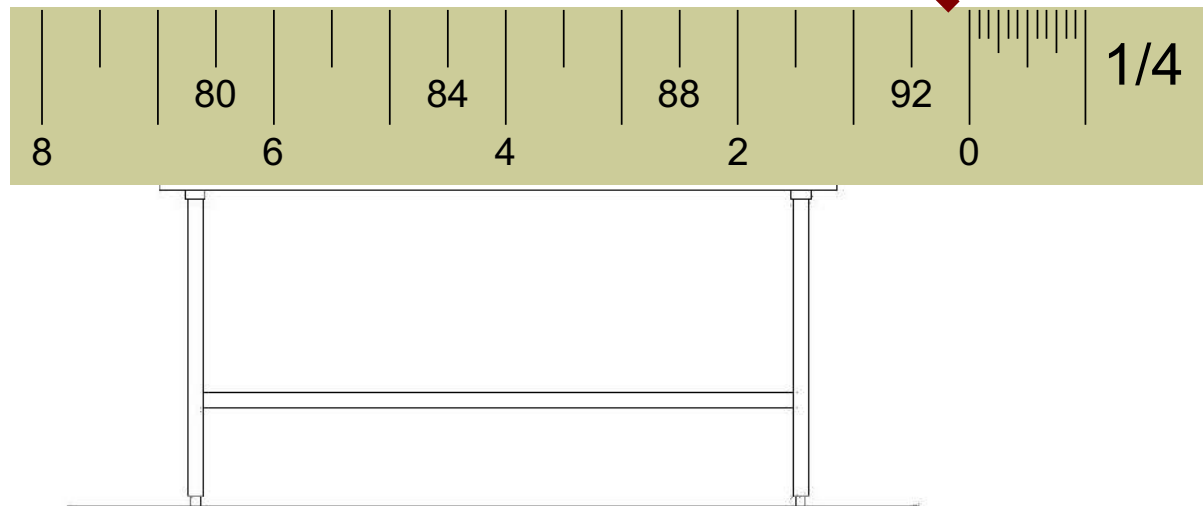
Example:

The Length of a Work Table



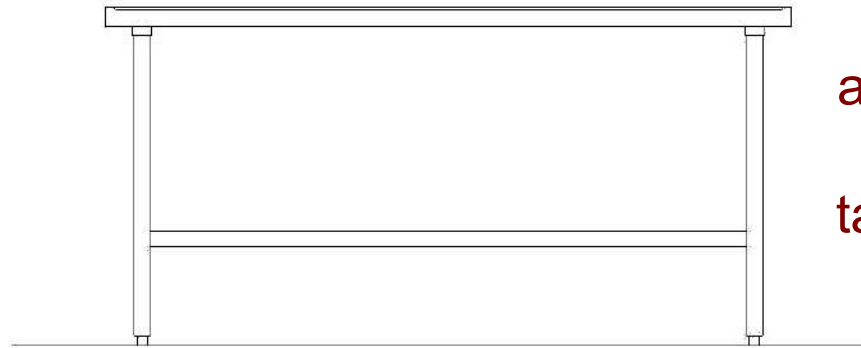
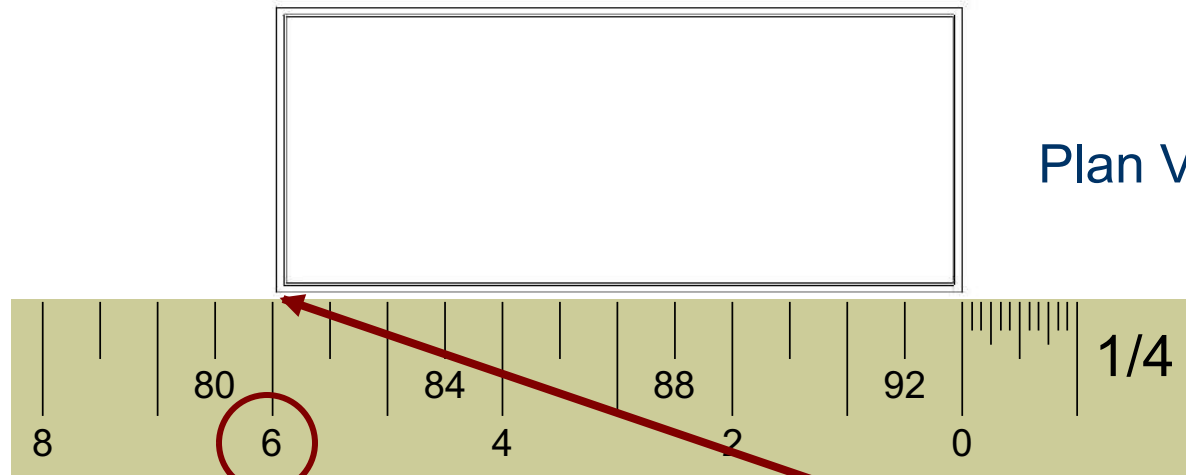
Find the “0”
point on the $\frac{1}{4}$
scale ...

Align it with the
left corner of the
table top



Example:

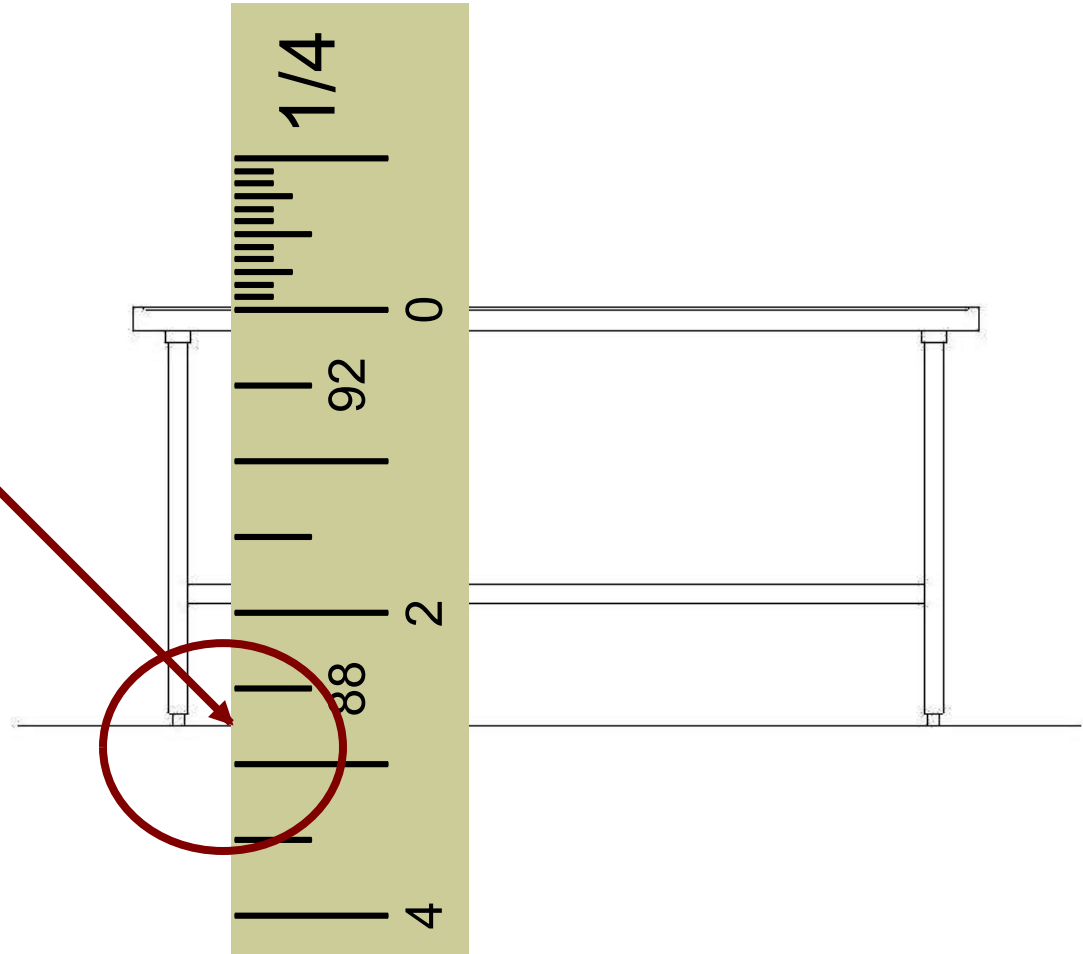
The Length of a Work Table



Looking from
Right to Left
along the scale,
note that the
table is "6" units
- 6 feet long.

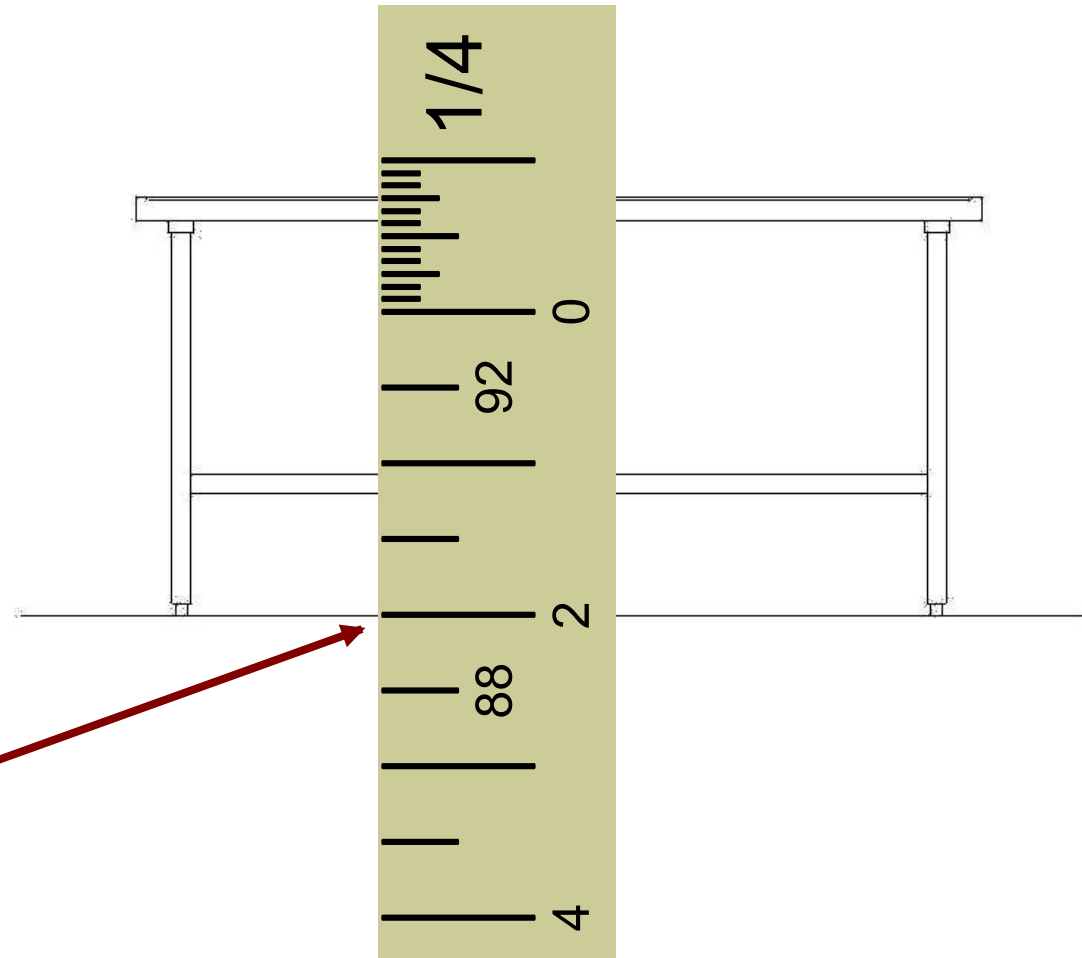
Example: Now measuring the height of the table ...

The table is
somewhere
between $2\frac{1}{2}$
and 3 feet high
...Can we be
more precise?



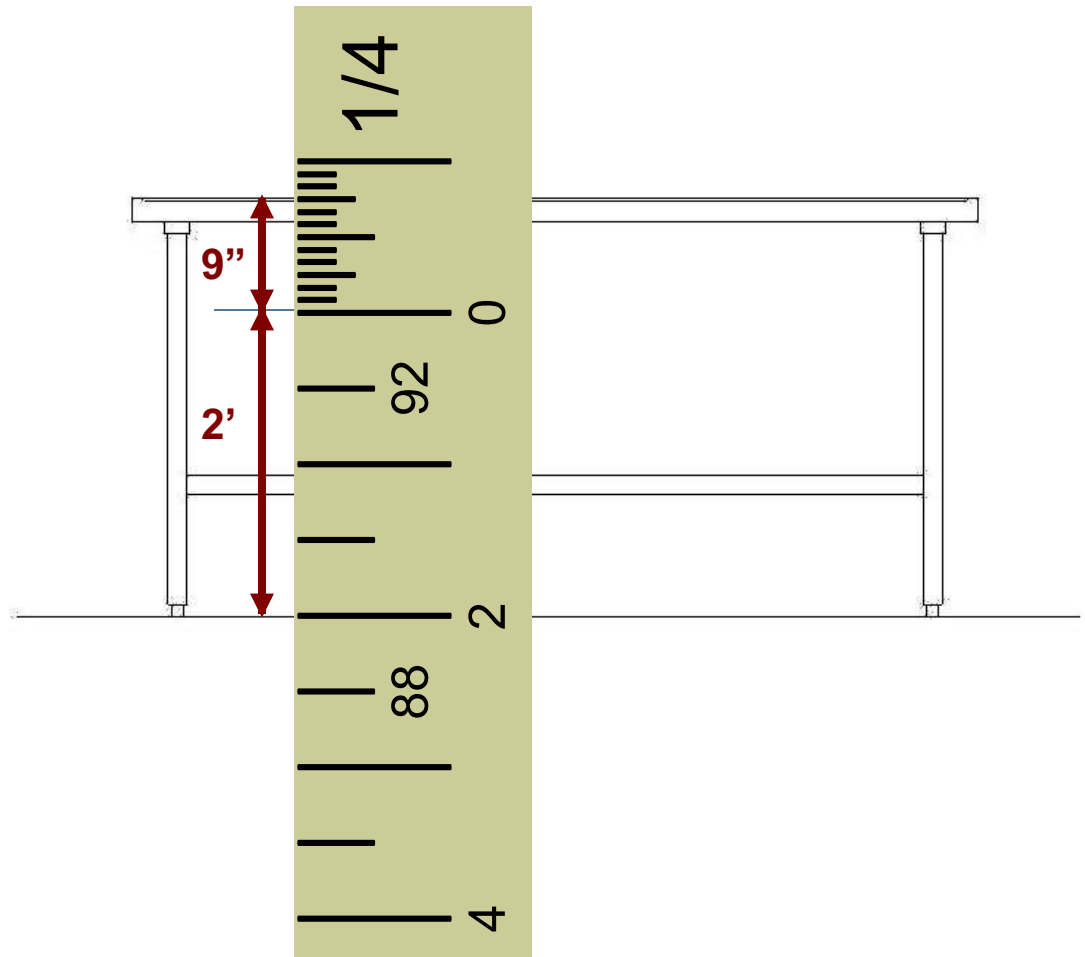
Example: Worktable Height

Slide the scale down so that the nearest whole foot measure (2') is aligned with the bottom of the table.



Example: Worktable Height

The read the area
“above” the “0” ...
a distance of
about 9” ... so the
table would be 2’
plus 9” high, or
33”







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