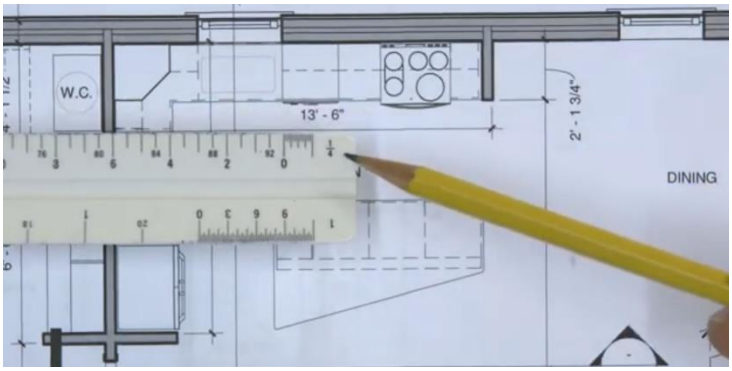
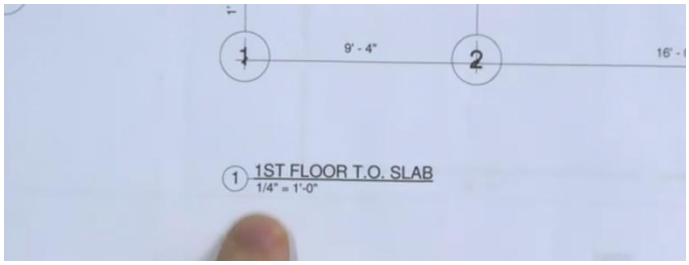
Architectural Scales

Using the scales on a 6-sided ruler



An Architect's Scale is designed to quickly determine the actual dimensions of a distance on a scaled drawing.

Most architectural, construction and engineering drawings and blueprints are scaled to allow for large areas, buildings and structures to fit on a sheet of paper. Even large sheets of paper have scaled down drawings of the structures so they fit everything on the page.

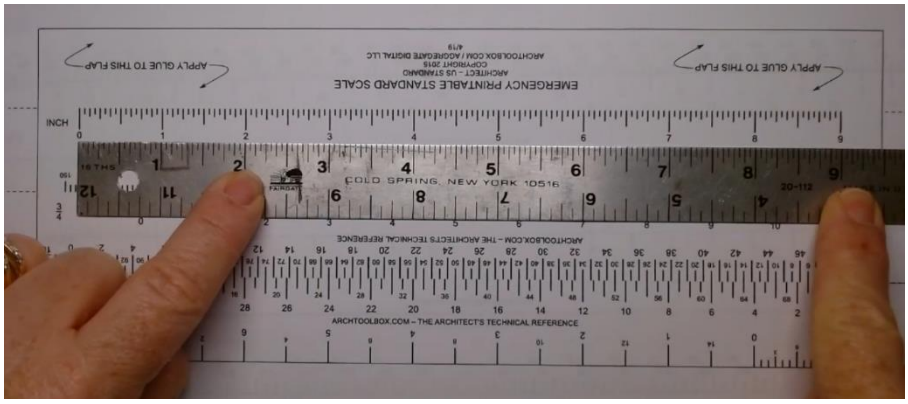


The first thing we need to do is find the scale of the drawing being measured. You can usually find this right under the title on the blueprint or drawing.

Once you know the scale of the drawing, flip your architect scale to the correct side on the ruler.

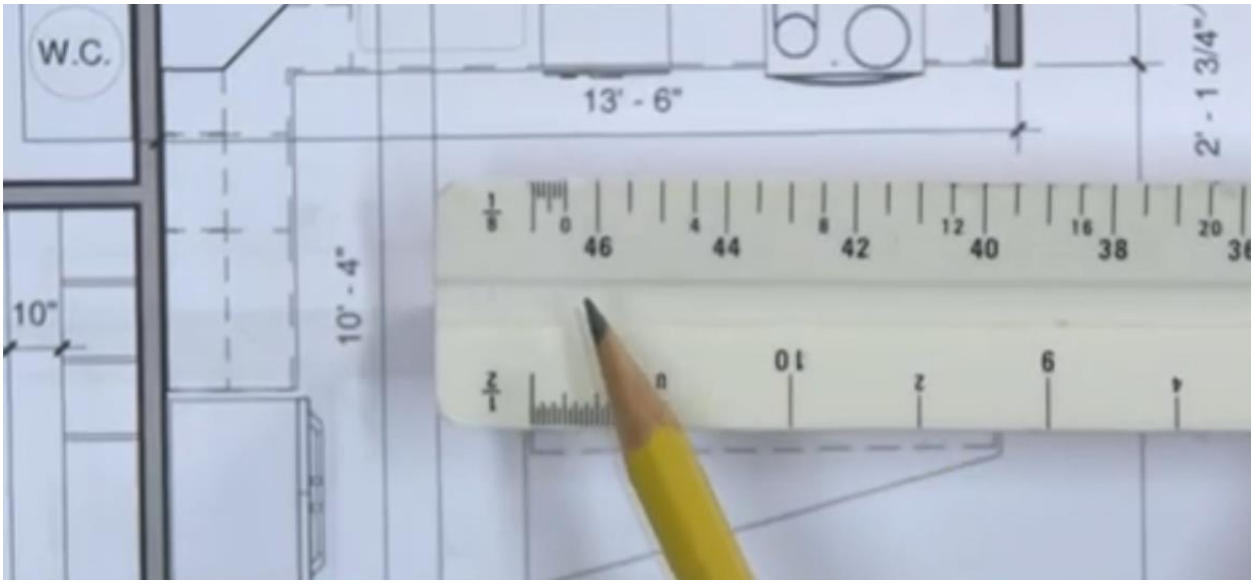
Before going any further, let's get you an architect scale! While you can purchase one for less than $20 from office supply stores, I've provided you with one you can print out and fold into shape. Please print out the last page of this document and watch the first video titled "Architectural Scales Part 1" to see how to do this.

Make sure you do not re-size the printed ruler or it will not read true when you use it for measuring.

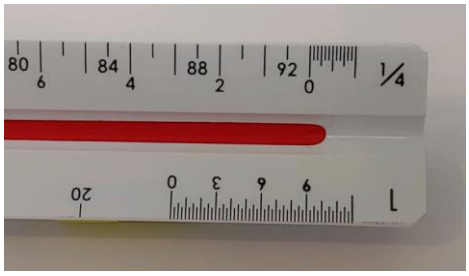


Before folding, check your printed ruler against a real ruler to make sure it printed correctly.

For example, 1/8 on the ruler means that when you measure 1/8 inch on the drawing, it actually is 1 foot in real life. For a drawing with a scale of 1/8" = 1 foot, this is the scale that you would use on the ruler.



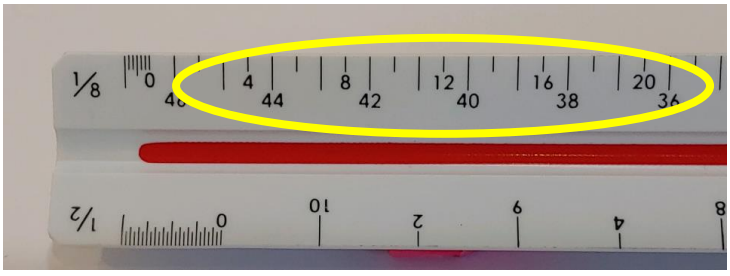
Look at both ends of the 1/8 inch scale. Do you see how the left says 1/8 but the right side says 1/4 ? There are two scales on each edge. One scale reads left to right and the other right to left. That's why there are two sets of numbers.



You have to slow down and be careful as to which scale you are reading!

For the 1/8 scale, the top numbers belong to the 1/8 scale and the bottom to the 1/4 scale. You can tell because they each start at zero from their end and count up.

When we read this part of the scale, circled in yellow, we are reading feet. That's why these are whole numbers.



How do you use this to read a measurement?

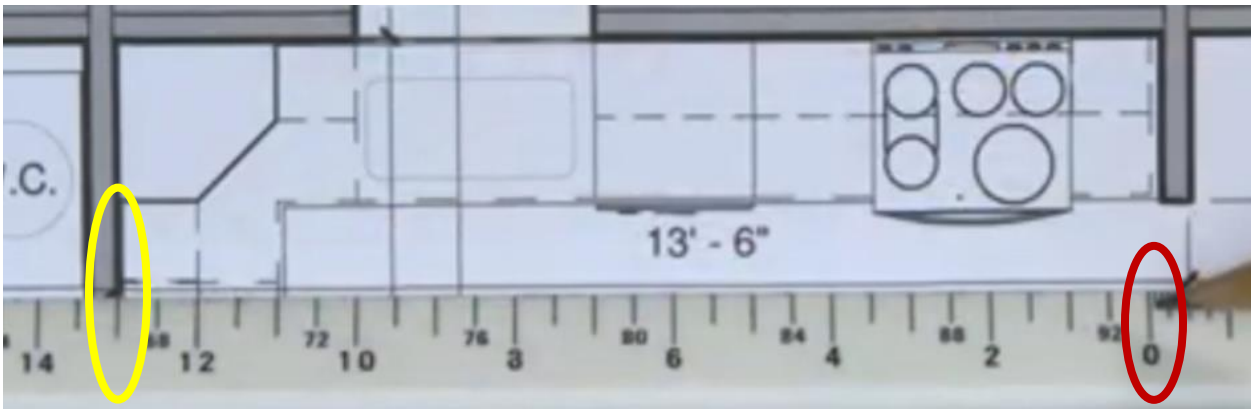
1. Find the scale of your drawing.

2. Find the right scale on your ruler that matches the scale on your ruler.

3. Line up the zero mark with the beginning of the line you are measuring.

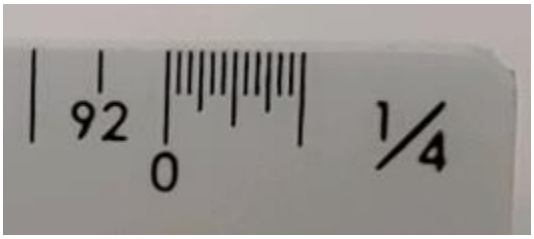
4. Find the end of the line and read the number off the scale that is closest to the ending point of the item measured. Be sure to 'round down', even if you are close to the next number. (This number represents the “whole number” in feet.)

5. Now slide the ruler so the whole number (feet) is lined up with the end of what you just measured, like this:



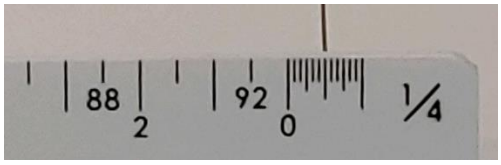
The yellow circle is on the 13 foot mark (we are using the lower numbers, as this drawing is in 1/4 scale, and the 1/4 scale starts on the right side and reads right-to-left.

6. Notice where the pencil is (red circle). We need to know the *inches*, so we are going to use this tiny mini-ruler at the edge. It looks like this when zoomed in:



7. When we go to the right of the zero, this is a measurement in *inches*. Since we have our ruler lined up with the 13' on one end, we use this mini-ruler to figure out the inches by counting up the lines. There are twelve lines which add up to one foot.

   We count up the number of the lines to count up to 6, so we read 6 inches.



   Add the inches to your whole number in feet for a total reading of 13 feet 6 inches! That's it!

While this might feel a little awkward at first, the more you practice, the easier this is going to be. Very soon, you'll be able to quickly and easily convert scale drawings to real measurements with no math involved simply by using your ruler!

Let's practice by measuring each of these objects. Measure both the length and the width. Notice the scale for each.

Scale: 1/8

Scale: 1/4

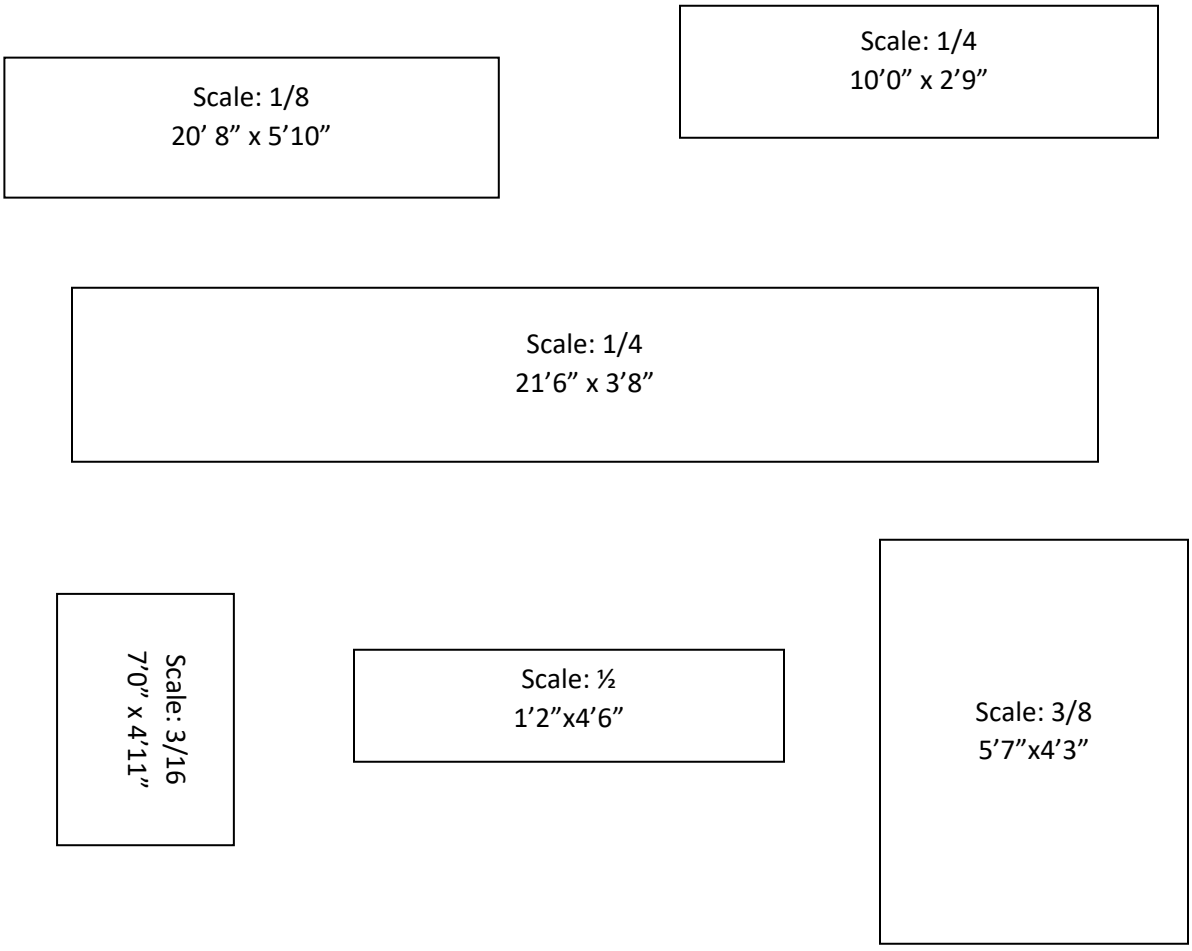
Scale: 1/4

Scale: 3/16

Scale: 1/2

Scale: 3/8

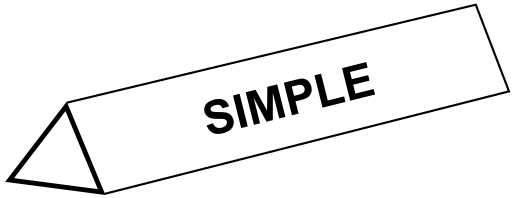
ANSWER KEY:

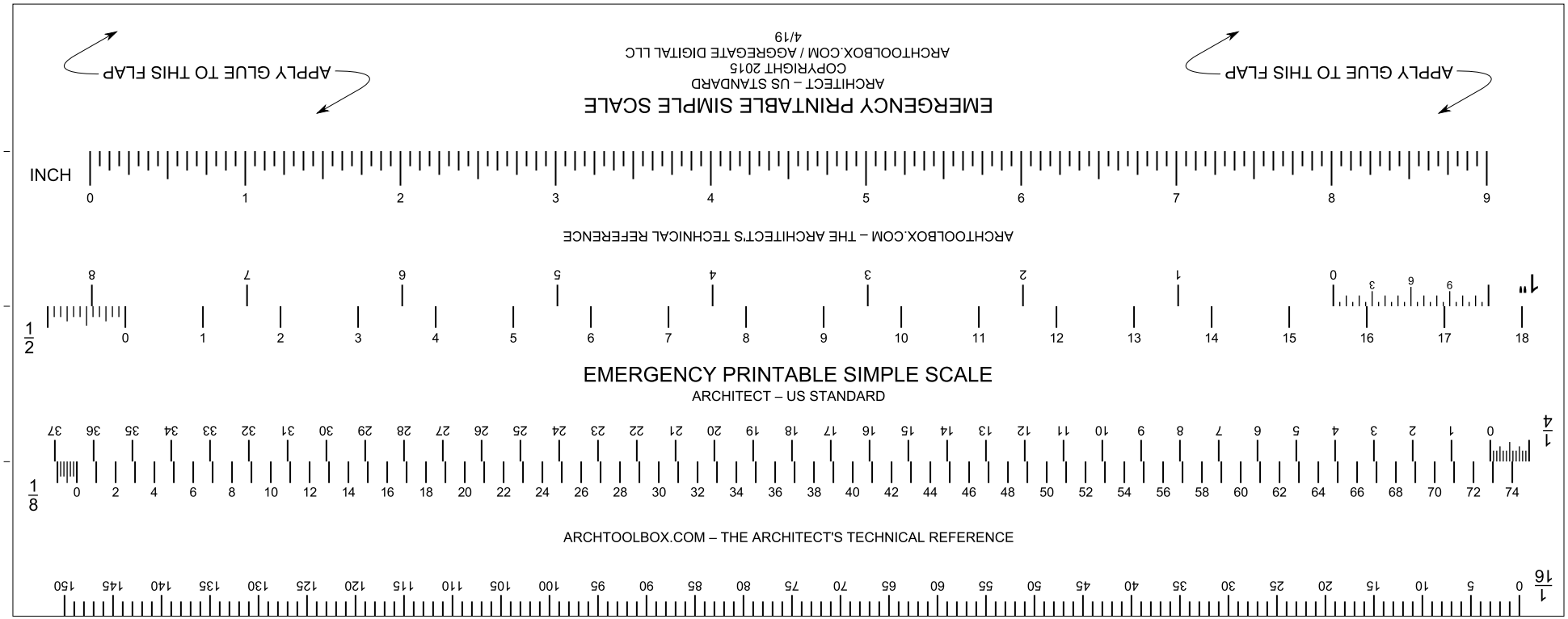


EMERGENCY PRINTABLE SIMPLE SCALE

INSTRUCTIONS

1. Print to your preferred paper medium. We suggest 110 lb. card stock. Be sure to print at 100% scale for dimensional accuracy.
2. Double-check that the print is the correct size. Use the INCH section to measure the width of a standard letter sized piece of paper - it should be 8 1/2" wide.
3. Fold at dashed (- - - - -) lines. This is just a premilinary fold to get everything aligned. A light score may help on thicker papers.
4. Trim around solid (———) lines. Recycle waste.
5. Apply glue where shown.
6. Secure the back side of the 1/16" and 1/8" flap to the glued flap. Tape can also be used if glue is not available.
7. You should now have a triangle scale - measure away!

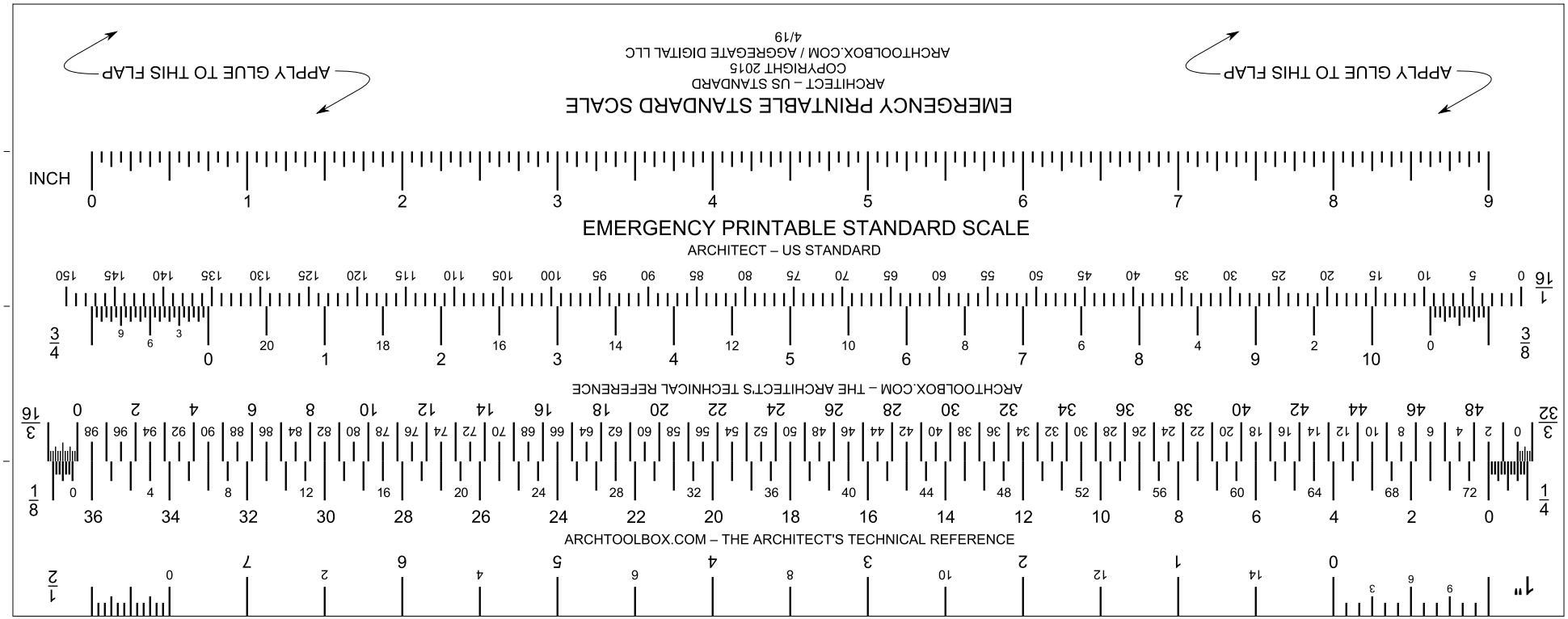




EMERGENCY PRINTABLE STANDARD SCALE

INSTRUCTIONS

1. Print to your preferred paper medium. We suggest 110 lb. card stock. Be sure to print at 100% scale for dimensional accuracy.
2. Double-check that the print is the correct size. Use the INCH section to measure the width of a standard letter sized piece of paper - it should be 8 1/2" wide.
3. Fold at dashed (- - - - -) lines. This is just a premilinary fold to get everything aligned. A light score may help on thicker papers.
4. Trim around solid (———) lines. Recycle waste.
5. Apply glue where shown.
6. Secure the back side of the 1" and 1/2" flap to the glued flap. Tape can also be used if glue is not available.
7. You should now have a triangle scale - measure away!



Architect Scale

1. Cut out around outline.
2. Fold at tick marks.
3. Apply dab of rubber cement to flap and fasten underneath.