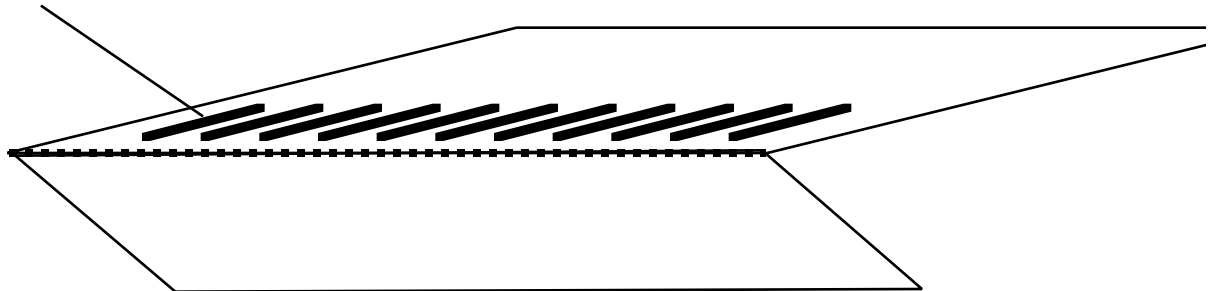


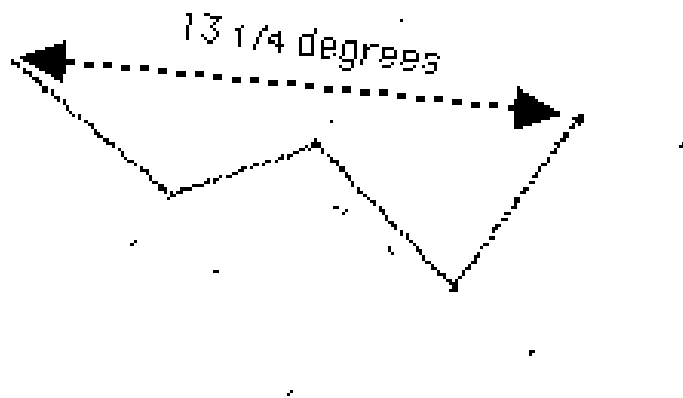
How to use the "angle measuring stick" page:

1. Place your fist against the page and find the scale that gives your fist as  $10^\circ$ . This is the first guess as to the best scale for you to use.
2. Fold the page so that your chosen scale is along the fold on the larger portion:

Your preferred scale

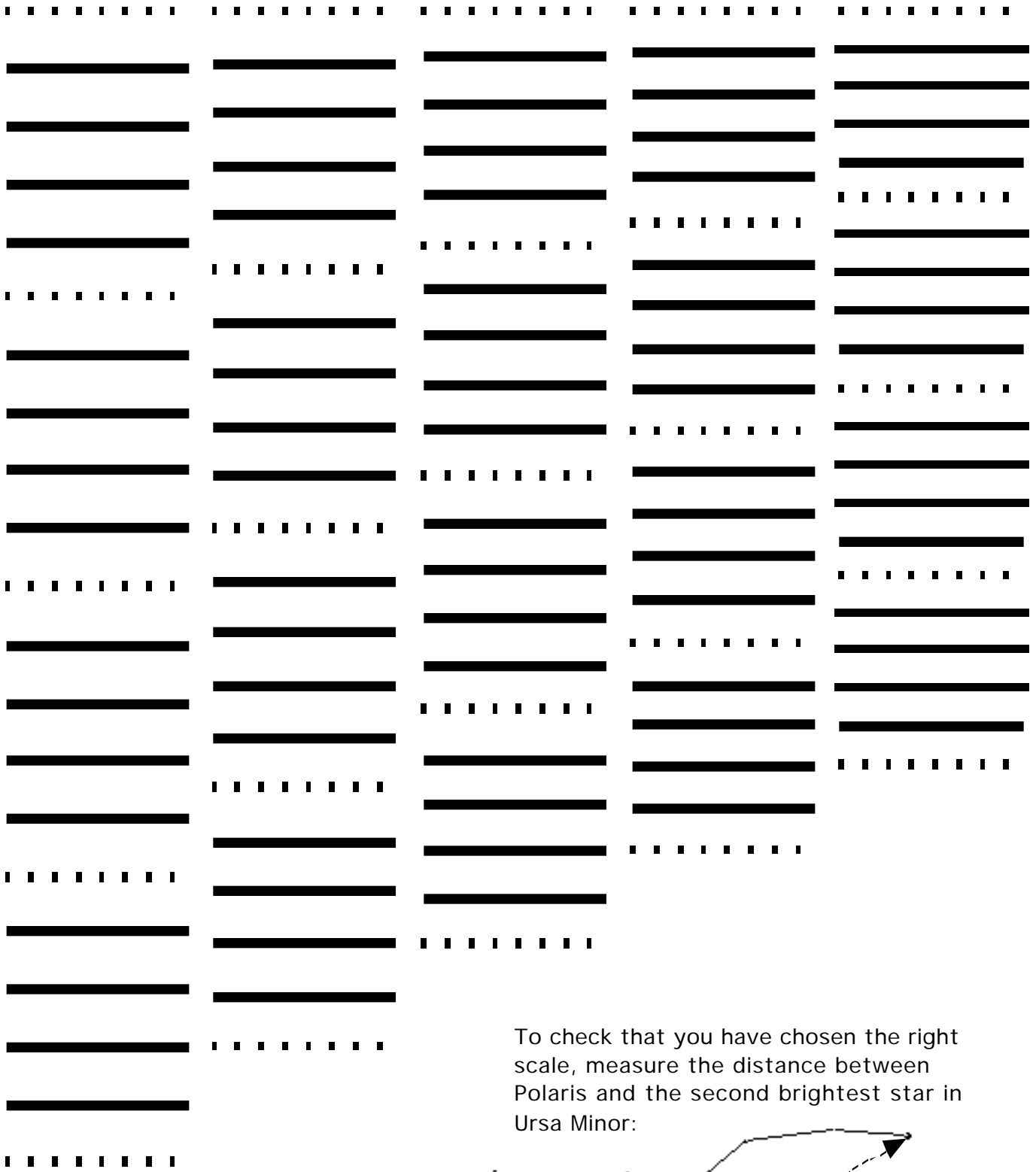


3. Roll up the page so that only your chosen scale is showing. Fasten with a rubber band or a couple of paper clips. This creates your "stick".
4. Go outside on a clear night and check that when you hold the stick at arm's length it gives the correct result -- use the Little Dipper stars (as sketched on the "measuring stick page", the pointer stars of the Big Dipper ( $5 \frac{1}{3}$  degrees apart), or the size of Cassiopeia (below) to check that it is working.) If it is off by more than a degree in  $15^\circ$ , try a different scale.



Be sure you hold it perpendicular to your arm. If this seems difficult, hold one end in each hand.

If you have trouble seeing the markings when it is at arm's length, use your fingers to "hold" the measurement as you bring the stick up closer to your eyes or into the light.



Heavy lines should be 1 degree apart when the scale is held at arm's length; dotted lines are 5 degrees apart from each other.

To check that you have chosen the right scale, measure the distance between Polaris and the second brightest star in Ursa Minor:

