**Activity 4.8.2 Making a Clinometer**

Materials needed:

Protractor

Straw

Tape

String

Weight to place at end of string

 Source: <http://www.instructables.com/id/how-to-make-a-clinometer-1/>

1. After making your clinometer, use it to measure the angle of elevation of an object. Work with a partner.

1. One person places one end of the straw at eye level and sites the object through the straw.
2. The other person records the acute angle shown on the protractor. Record that angle measurement here:
3. Subtract the result found from 90° to find the angle of elevation:

2. Explain why you now must subtract the angle found in step 1b from 90° to find the angle of elevation.

3. Rashid and Fernando are measuring the height of a tree. They stand at a distance of 70 ft from the tree. Rashid looks through the straw and Fernando looks at the measurement on the protractor. The string passes through the 55° mark on the protractor. How tall is the tree?

4. Brittany and Latisha are measuring the same tree. They decide to walk to a place where the angle on the protractor measures 45°. They say that the distance to the tree will then be equal to the height of the tree. Are they correct? Explain.