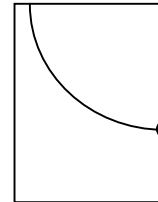




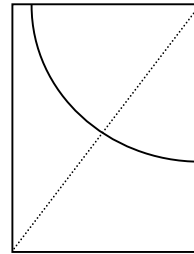
## How To Make A Clinometer

Materials: paper copy of Lesson 4.1.6B Resource Page, straw, string, staplers, 4" by 6" index card (or cardboard for a more durable product), glue, tape, 1/4" washer.

- Cut out and tape or glue a protractor scale to the index card or cardboard as shown below. **Note** that the zero on the protractor should be on the *edge* of the card.
- Tape a straw along the top of the card, as shown. Put the string into the straw at X, pull it through the straw, and staple or tape it to the card near point Y (see below).
- Tie a weight (such as a washer) to the other end of the string so that the string will hang vertically a little below the bottom of the card. Ensure that the string is long enough for the weight to hang freely throughout the rotation of the clinometer.
- When using the clinometer, you should stand at a convenient distance from the object that you are measuring. Sight the top of the object through the straw and record the angle where the string intersects the protractor scale. Your partner can help you with this.

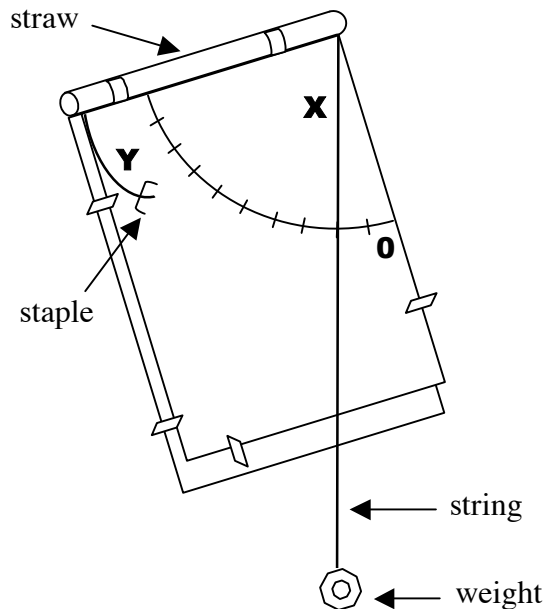


**NOTE:** zero is here



**NOTE:** string needs to be at least as long as the diagonal length of the index card.

\* The Clinometer activity is based on a presentation given by Micheal Palmer at the 1987 Invitational Summer Institute of the Northern California Mathematics Project.



### Clinometer Protractors

