

# How To Use Our Protractor

Many teachers are frustrated by the difficulty of using the standard half-moon protractor. The Barry Scientific Protractor is extremely intuitive, and hardly needs teaching at all.

One teacher passed the protractors out to his students, and turned to deal with a visitor. When he turned back to the class, they students were already using the protractors to measure and draw angles!



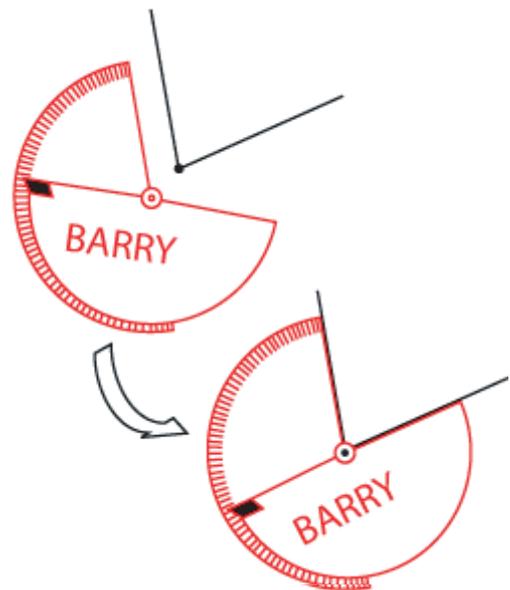
## How To Use The Protractor:

### **Measuring an angle:**

Given an angle, it is easy to find out how many degrees it is.

Simply place the grommet of the protractor (the small metal ring) over the vertex of the angle, and rotate the two halves of the protractor until each protractor ray lines up with a ray of the angle.

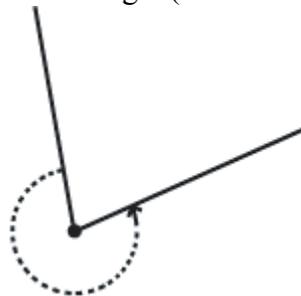
The pointer indicates the number of degrees in the angle!



Rotate the protractor's halves to match the angle, and the pointer indicates the number of degrees!

### **Measuring the reflex angle:**

Suppose you want to measure the reflex angle (the outside of an angle). Is there an easy way to do this? Well, you can always measure the angle in the regular way, then subtract that from 360.



But with our protractor, there is actually an easier way. Turn the protractor over, and measure the angle this way.

The pointer on the back points to the number of degrees of the reflex angle!

### Drawing an angle:

To draw an angle of a certain degree measure, swing the pointer to the number of degrees you want.

Place the protractor on the paper, and draw a dot in the center of the grommet. This will be the vertex of the angle.

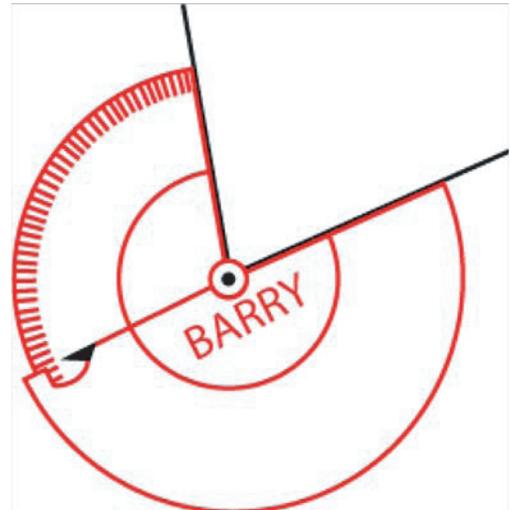
Draw out along the rays of the protractor to create the angle.

**Application:** In our Draw A Regular Polygon lesson plan, students are required to draw multiple angles of the same degree measure, and with the same ray length.

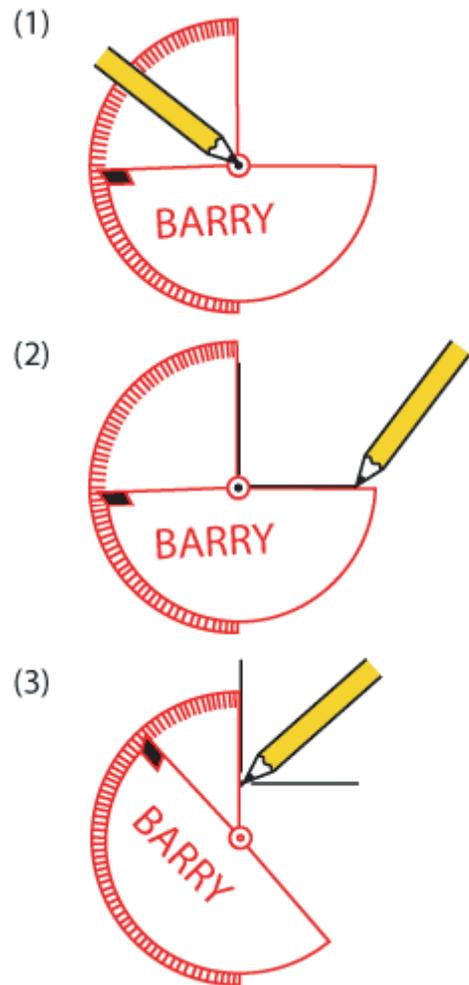
The centimeter markings allow the students to draw angles with rays of a certain length.

**Tip:** When drawing multiple angles of the same degree measure, it can help to use a piece of tape to hold the two protractor halves in the same position.

Finally, you need to connect the rays to the vertex. Move the protractor to use the protractor's rays as a straightedge. Draw to connect each ray to the vertex.



Turn the protractor over, and you can measure the outside of an angle.



- (1) Fill the center of the grommet.
- (2) Draw along the rays of the protractor.
- (3) Connect the rays to the vertex of the angle.