

# Plato's protractor™ III

## Measuring angle openness in quips and degrees

Using arc length to find the number of degrees in a quip.

We measure openness when we find the size of an angle.

So, the units we have used so far, like windmill angles, quips and degrees are all measuring the same thing - openness?

Exactly.

Ok, so the angle in the TGT in my Mathomat has  $60^\circ$  of openness. How many quips is that?

Well, I know there are  $360^\circ$  in a TGT circle. So,  $60^\circ$  of openness =  $\frac{60}{360}$  or 16.7% of its circumference. I also know that 15 quip angles cut off exactly 15 equal arc lengths in the circumference of a circle. So 16.7% of 15 equals 2.5. There are 2.5 quips in  $60^\circ$ .

I am going to work it out using cross multiplication.  $\frac{x}{15} = \frac{60}{360}$ , where  $x$  = the number of quips in  $60^\circ$ .  $360x = 900$ .  $x = 2.5$ . There are 2.5 quips in  $60^\circ$ .

Imagine the TGT in Mathomat had  $95^\circ$  of openness. How many quips would that be?

In the space below work out how many quips in  $95^\circ$ . Answer is on the Explorer manual support site.