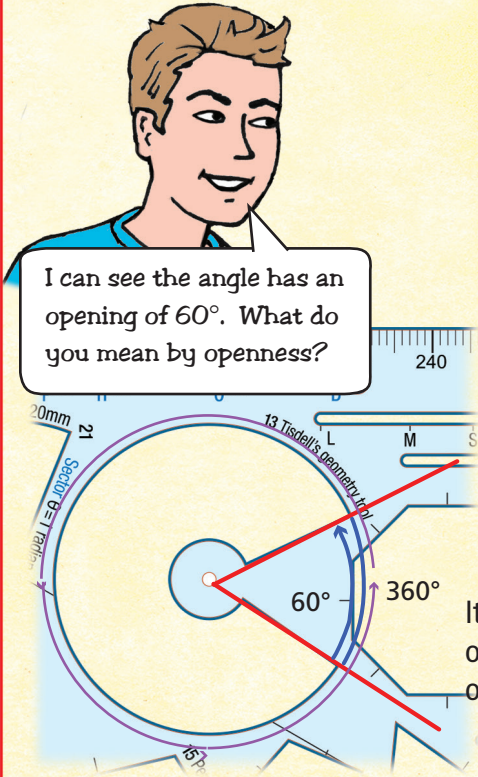


Plato's protractor™

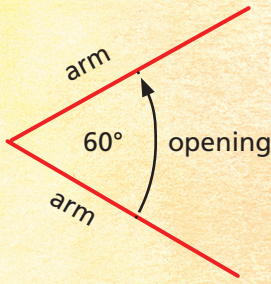
Using arc length to measure an angle.

Years 9-12

Measuring the openness of an angle.



I can see the angle has an opening of 60°. What do you mean by openness?



The openness of that angle is 60°.



To see an angle's openness imagine it's part of a circle.

The TGT in my Mathomat is a good example...

Its 60° angle cuts off $\frac{60}{360}$ or 16.7% of the circumference of the circle that it is centred in.

...you can see that openness is the length of arc cut off by the angle in proportion to the total length of the circle's circumference.

Measuring angle openness

degrees
 percentage

Use the TGT in your Mathomat, its ruler edge, a piece of string and a calculator to measure the openness of the opening in this angle drawing (do not use your Mathomat protractor!). Print the step by step openness measurement guide from the website and use it for this task.

