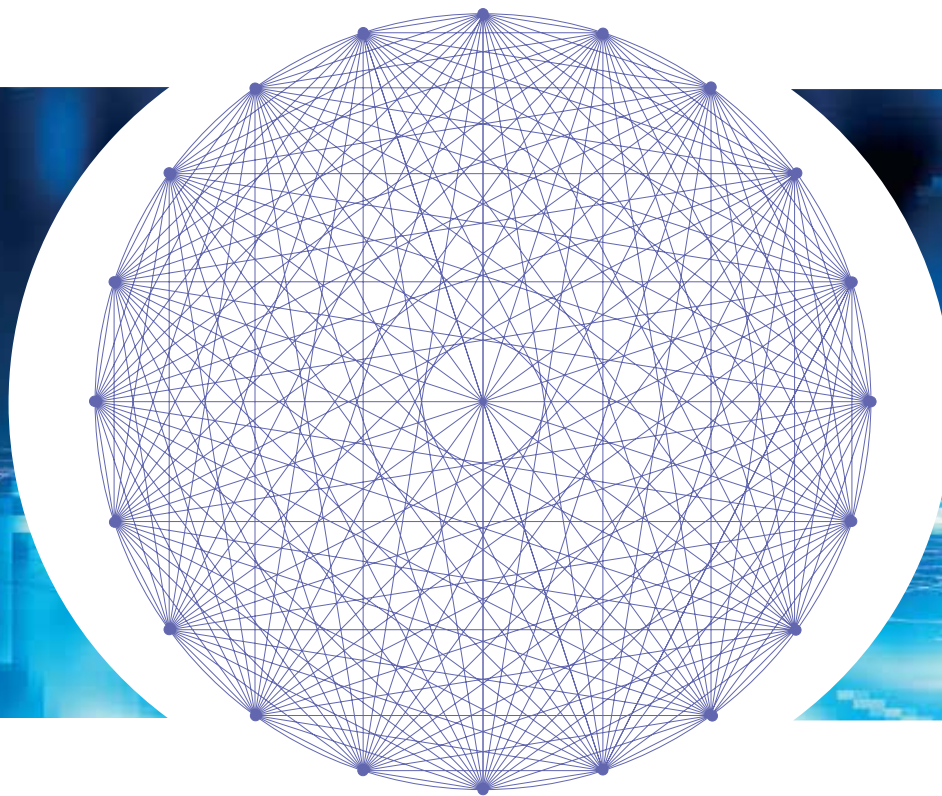


Web Circles

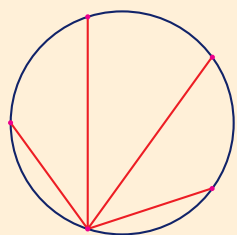
You need: a calculator (optional)

ACTIVITY

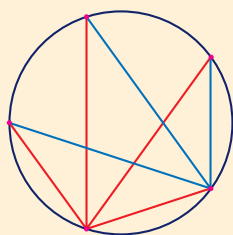
In this 20-point web circle, each point is joined to the other points with straight lines. Ian wants to find a way to work out how many straight lines there are.



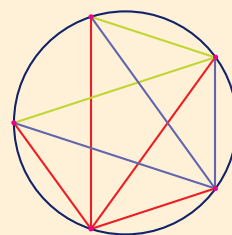
He begins by drawing a 5-point web circle. He draws 4 red lines from one of the points, 3 blue lines from a second point, 2 green lines from a third point, and 1 brown line from the fourth point.



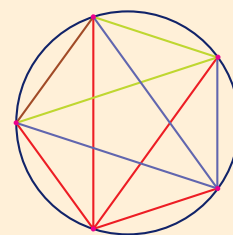
Step 1



Step 2



Step 3



Step 4

- 1
 - a. How many straight lines does Ian draw?
 - b. Predict the number of straight lines in a 6-point web circle. Draw it and check your prediction.
 - c. Work out the number of straight lines in the 20-point web circle above. You may need to use a calculator.

- 2
 - a. See if you can devise a simple short cut to calculate the number of straight lines in the 20-point web circle.
 - b. Work out the number of straight lines in a 100-point web circle.
 - c. A web circle has x points. Devise a rule for the number of straight lines. (Check that your rule works.)