## Maths–Pro

## Sangaku construction

- 1 Use Maths–Pro or Geo–Pro to draw a large circle.
- 2 Draw a quadrilateral whose corners are on the circle (i.e. draw a cyclic quadrilateral).
- 3 Divide the quadrilateral into two triangles (see dashed lines in the diagram opposite).
- Find the "in–centre" of each triangle.
  (The in–centre is found by intersecting the angle bisectors of the triangle see red dotted lines in diagram for an example).

Measure each triangle angle, then halve it.

Draw new angles of this size as shown for the larger triangle by the red dotted lines.

5 Join the "in–centres" to form a new quadrilateral. Is it always rectangle? Investigate for a new cyclic quadrilateral.

