

This design forms the basis of a number of Celtic patterns.

All of the circles are touching and the sides of the outside triangle are tangents to the largest circle.

The radius of the smallest circle is 1 unit.

What is the side length of the triangle?



MATHEMATICS FOR HIGHER EDUCATION

For the solution to this problem and to access other mathematical problem solving activities see [furthermaths.org.uk/a-level-problem-solving](https://www.furthermaths.org.uk/a-level-problem-solving)

➤ MATHEMATICS FOR HIGHER EDUCATION

A levels in Mathematics and Further Mathematics provide excellent preparation for degree courses across a range of subject areas including biology, chemistry, computing, architecture, healthcare, economics, business and geography.

For students progressing to degrees in mathematics, physics or engineering, studying **AS or A level Further Mathematics** alongside A level Mathematics provides a broader and deeper mathematical preparation and is an entry requirement for some courses.

The Further Mathematics Support Programme (FMSP) provides advice and guidance about the mathematical preparation required for degree courses, including:

- **mathematical topics** beneficial for different degree courses
- **example first year undergraduate materials**
- **careers** for which A level Mathematics is particularly relevant
- information about **applications and interviews** for mathematics degree courses
- suggested **wider reading**
- links to useful **websites**.

Visit furthermaths.org.uk/universities to find out more.

• The FMSP provides support for students in developing deeper problem solving skills. These skills are important in developing greater confidence and fluency in mathematics and are highly valued by universities.

• Some degree courses require success in additional mathematical examinations as part of their entry requirements. The main examinations are:

- **STEP** (Sixth Term Examination Paper)
- **AEA** (Advanced Extension Award)
- **MAT** (Mathematics Admission Test)

• More information about these examinations can be found at furthermaths.org.uk/step-aea-mat

• You can also download some practice materials to try for yourself from furthermaths.org.uk/a-level-problem-solving

• If you have any questions about preparing mathematically for your chosen degree course, please contact admin@furthermaths.org.uk

