

Maths Homework: Investigation Challenges

Choose and complete one of these investigations.

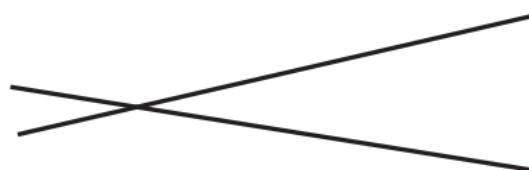
STICKS

Aim: Find the maximum number of intersections as the sticks cross.

Collect a numbers of sticks or use straws. You can also draw these 'sticks'.



With one stick, no sticks cross.



With two sticks, there is one intersections (where the sticks cross).

How many intersections would there be with three sticks?

Record the maximum number of intersections for each number of sticks using a table like this one:

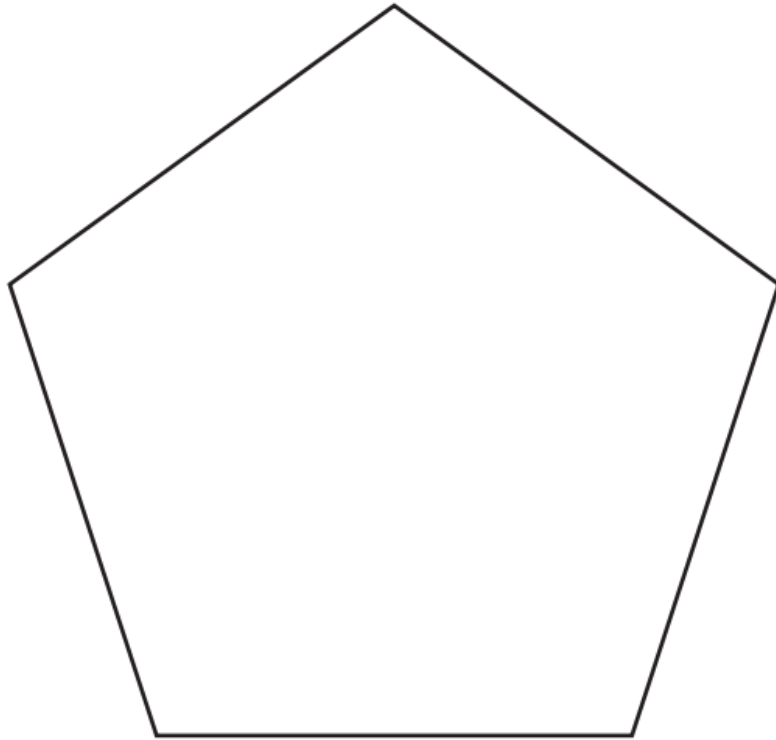
Number of sticks	Number of intersections
1	0
2	1
3	

- What pattern can you spot? You might need to try up to 8 sticks!
- Explain the reason for the pattern.
- Predict the next number of intersections and test your idea with many more sticks.

PENTAGRAMS

Using this pentagon, join each vertex to the two vertices opposite.

Vertex: Where the sides meet. Vertices is plural for more than one vertex.



How many triangles can you make?

Use these pentagons page that follows if you want to print out and test different ways to make a triangle.

