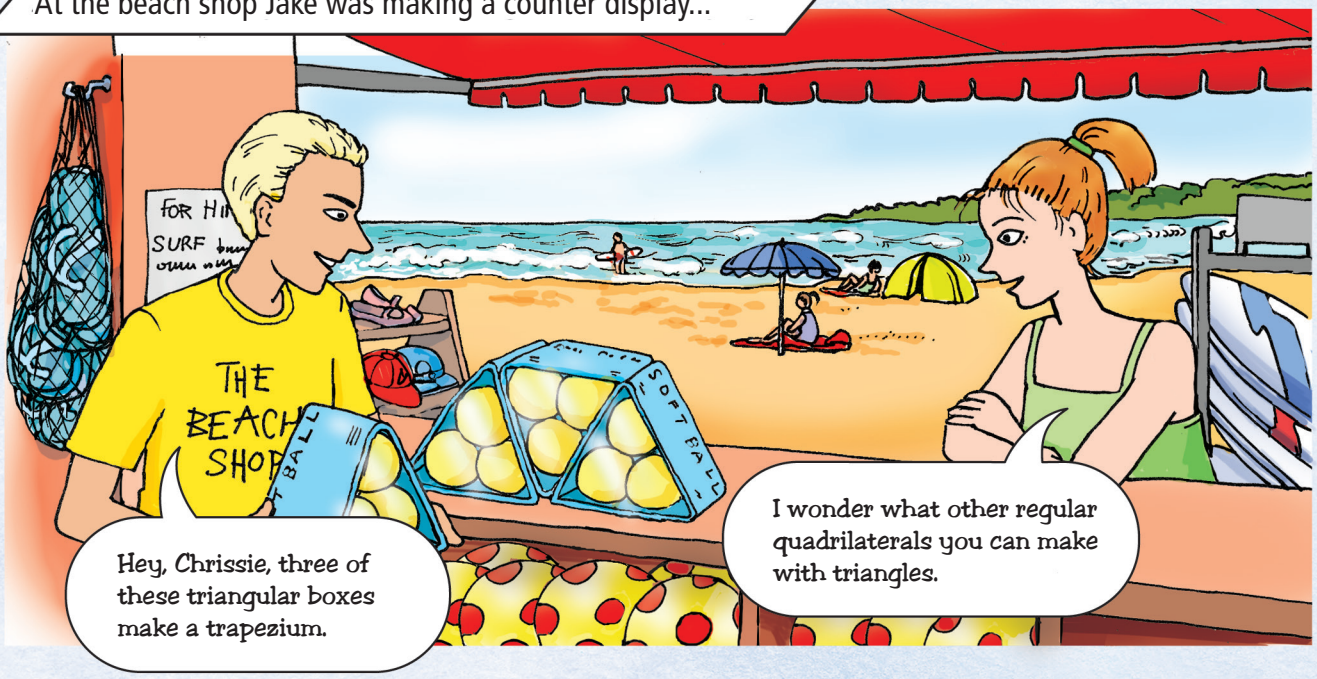
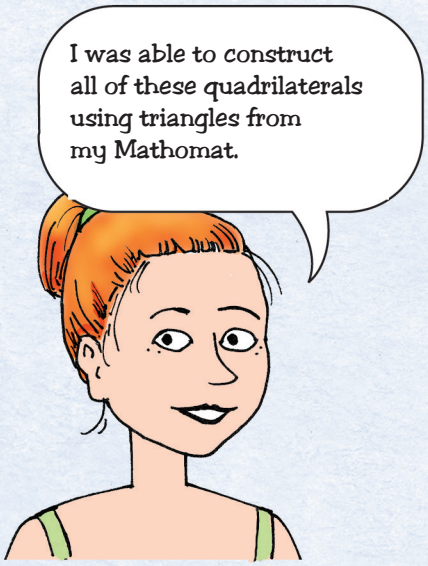
Investigate the connection of triangles and quadrilaterals using Mathomat.

Triangles to quadrilaterals

At the beach shop Jake was making a counter display...



Make and match



With your Mathomat construct the quadrilaterals described below using Mathomat (a quadrilateral is a shape with four straight sides).

Trapezium - has one pair of parallel lines

Parallelogram - has two pairs of parallel lines

Rhombus - a parallelogram with all sides equal in length

Square - a rhombus with four right angles

Rectangle - has four right angles, which means it has opposite sides parallel and of equal length.

Flagging quadrilaterals

I've stuck 6 groups of flags into the sand. Each group marks out a different quadrilateral.

Each group consists of four flags of the same design. Join each group with straight lines to make quadrilaterals - five convex and one concave. Put the names of quadrilaterals in the boxes above.

Find groups of four flags. Try to visualise what shapes they will make before joining them up.

Convex and concave quadrilaterals

If we take any two points inside any of the 5 convex quadrilaterals above and join them with a line, the line will be inside the region formed by this shape.

This is not so for the concave arrowhead.