

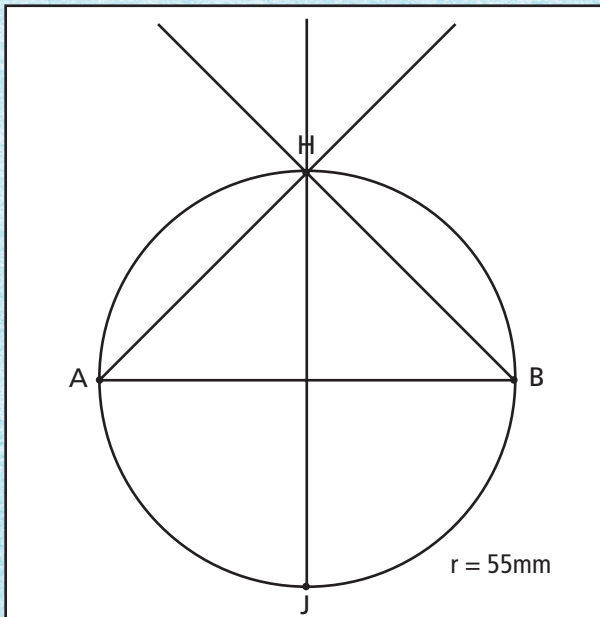
# Exploring the magic egg puzzle with Mathomat

Tangram and magic egg puzzles are a good warm up for 3-D model making.

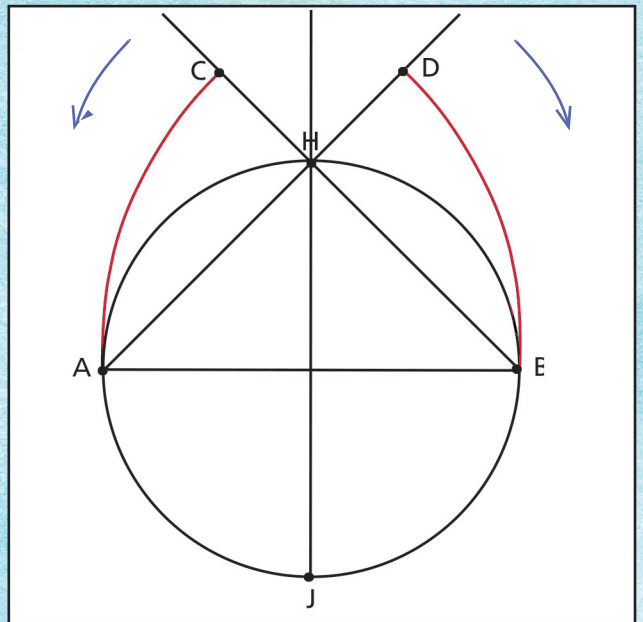


## Making a magic egg puzzle using Mathomat

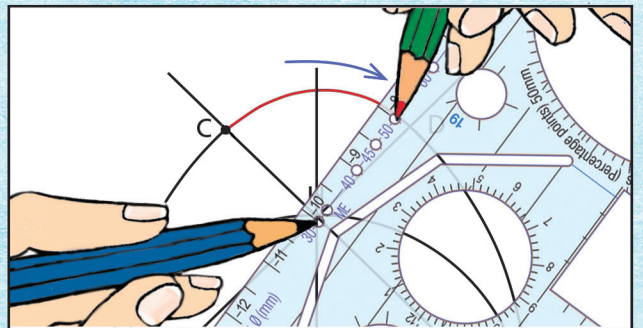
Use thin cardboard, A4 sized



**Step 1:** Draw a circle with a 55mm radius using the protractor in Mathomat V7. Mark points A, B, J and H, then use Mathomat to draw the perpendicular line segments AB and JH. With the ruler edge on Mathomat rule two 130mm long line segments from A and B through H.



**Step 2:** With the zero point of the arc builder scale held at A draw an arc with a 110mm radius from D to B. Reset the arc builder scale at B and draw a second arc from C to A.

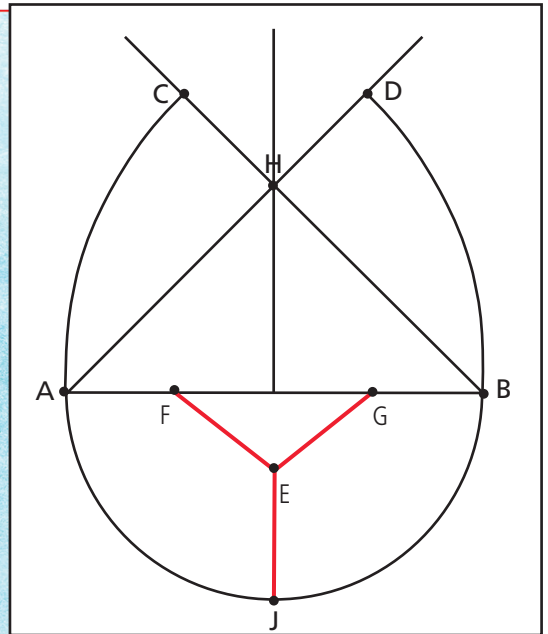


**Step 3:** Use the special location in the arc builder scale marked ME to draw an arc from C to D, centred on H.

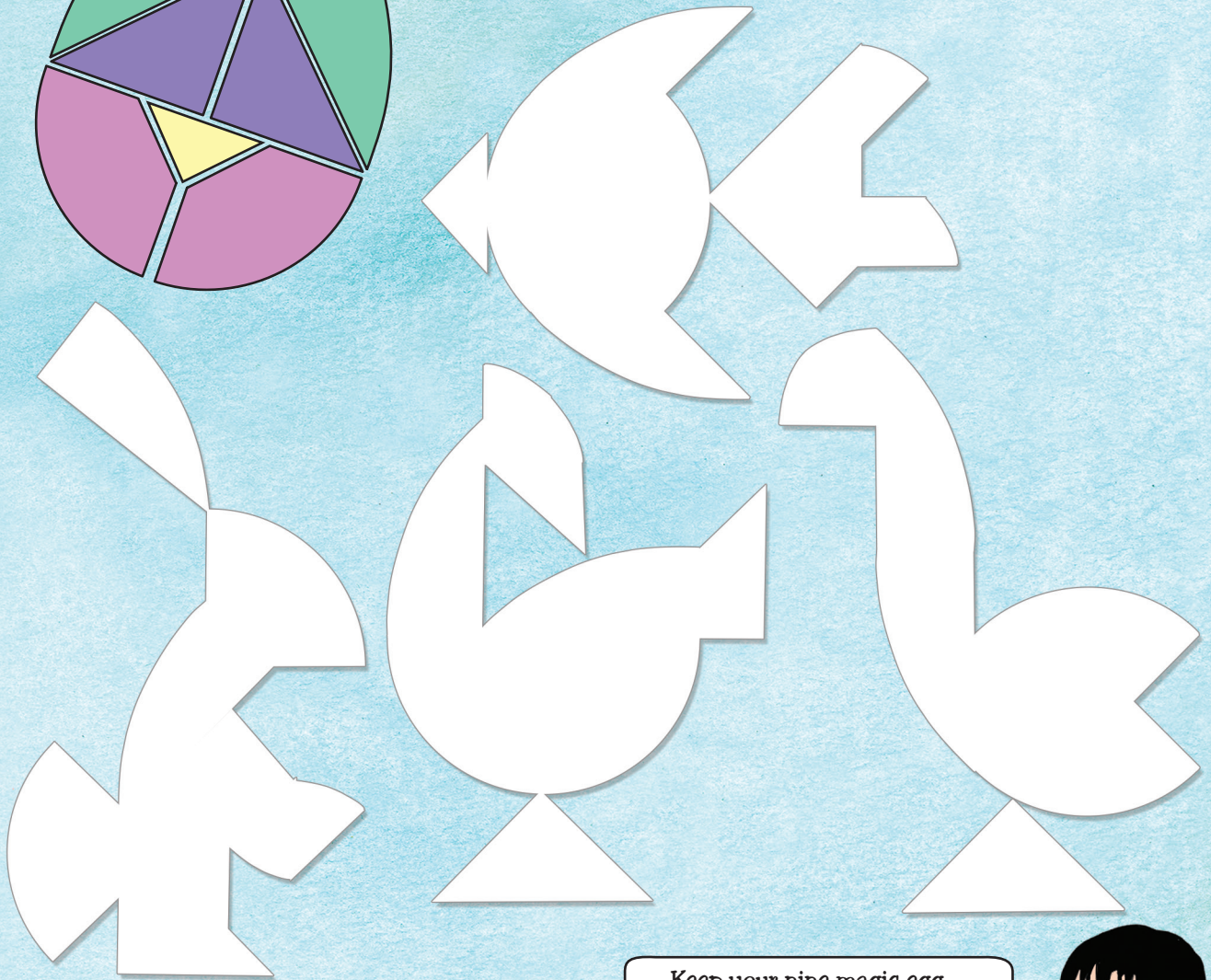
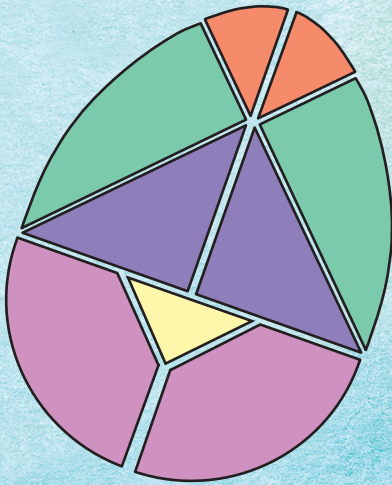
**Step 4:**

Using the arc builder scale with zero set on point J, mark point E using the ME location. Reset the arc builder scale at E and mark points F and G using the ME location again.

Rule in line segments EG and EF using Mathomat. Your magic egg drawing should look like this.



Cut your magic egg up into its nine different shapes and see if you can make the fish, birds and rabbit.



Solutions for these figures are in the Explorer manual section of website. Once you have copied them, try creating your own designs.

Keep your nine magic egg pieces in the pocket in your Mathomat wallet.

