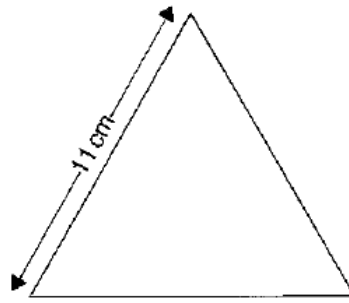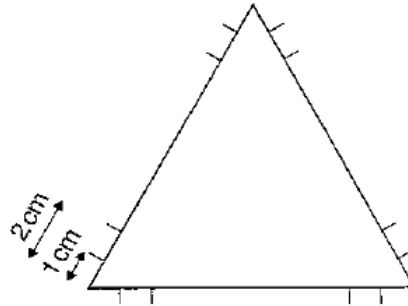The following instructions are taken from the SMP 11-16 booklet entitled 'Impossible Objects', and are reproduced with the kind permission of the Cambridge University Press.
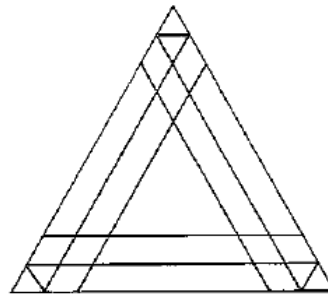
1 Draw an equilateral triangle.
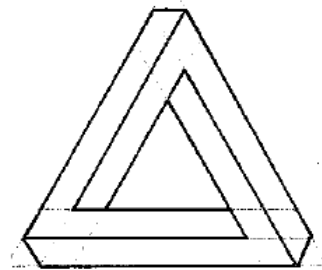Make its sides 11 cm long.
(Set your compasses to 11 cm.)

11 cm

2 Mark **1 cm** and **2 cm** from each corner.
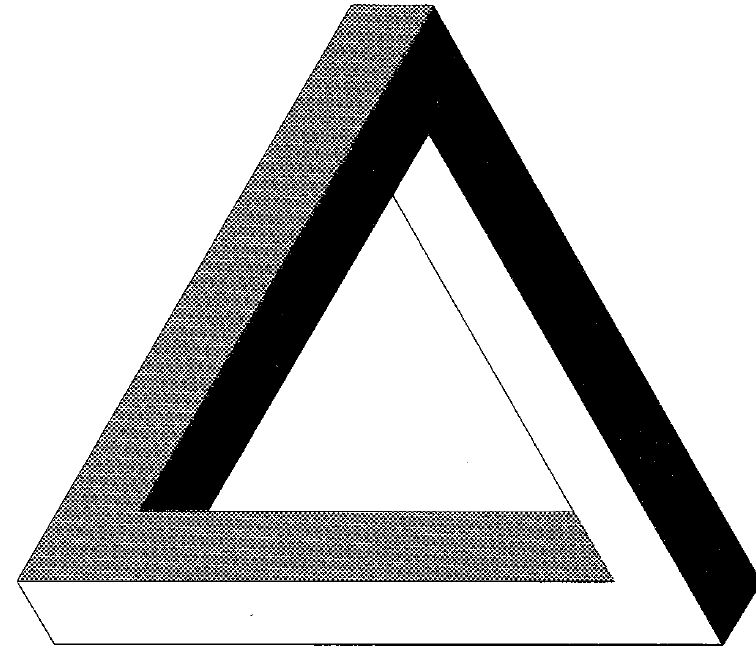Do this at all 3 corners.

2 cm
1 cm

3 Join the points.
Make this diagram.

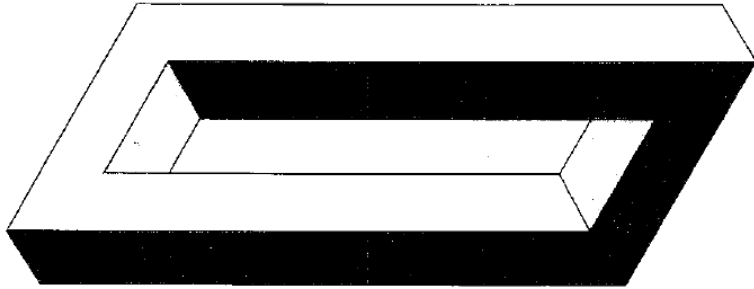**4** Now make the lines you want thicker, or colour them.
Rub out the other lines.

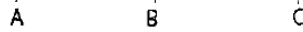**5** Colour your Penrose triangle.
Make it look like the one on page 2.

More impossible objects

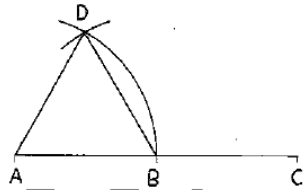Here is another impossible object.
It is a kind of twisted rectangle.

It is impossible to make, but quite easy to draw.
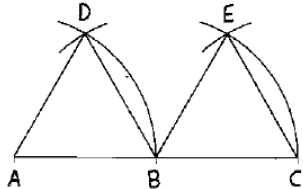You use equilateral triangles to help.

1 Draw a line 10 cm long.
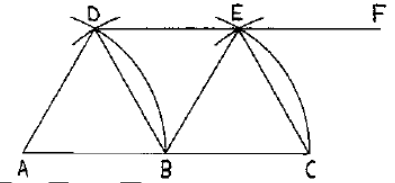Label the ends A and C.
Mark the exact middle. Call it B.

2 Set your compasses to 5 cm.
Draw part of a circle with
A as centre.
Draw another with B as centre.
Then draw the equilateral triangle.
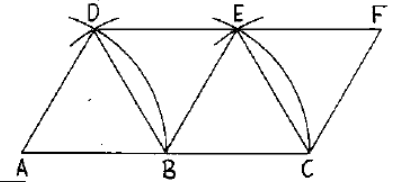Label the top point D.

3 Keep your compasses at 5 cm.
Do the same as in **2**, but use
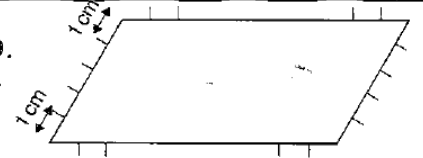B and C as centres.
Label the top point E.

4 Draw a line through D and E.
Make it exactly 10 cm long.
Label the end F.

5 Join C to F.

6 Rub out all the lines and letters
except the parallelogram ACFD.
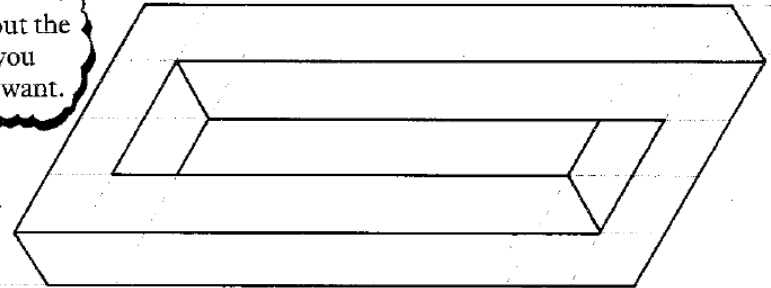On each side mark these points.
They must all be exactly
1 cm apart.
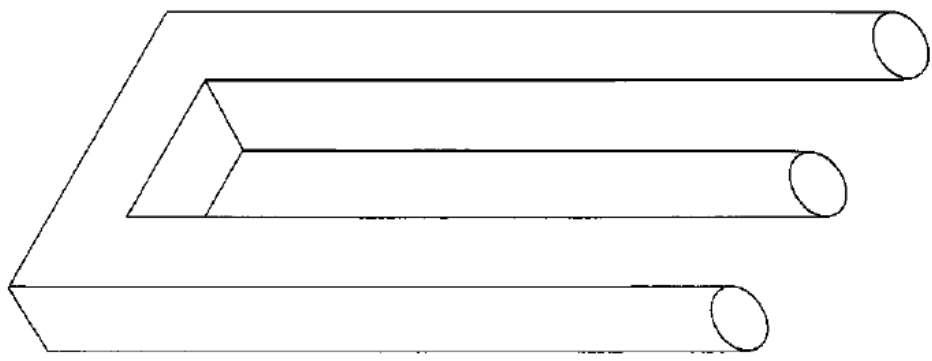
7 Join up the points
to make this grid.

8 Here is your grid full size.
Make the lines that you want thicker, like here.
Colour your twisted rectangle like the one on page 4.
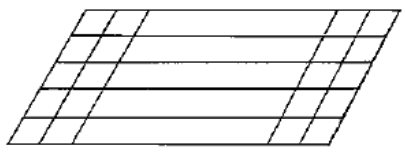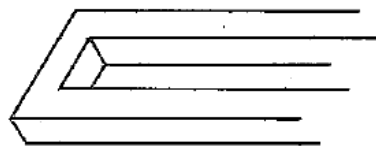
> Rub out the
> lines you
> don't want.

The 'blivet'

This impossible object is called a 'blivet'.
Look closely at it to see why it is impossible.

1. Draw a 'twisted rectangle grid'.
   Look back at pages 4 and 5
   to see how to do this.

2. Draw these lines in thicker.
   This makes the left hand
   end of the blivet.

3. Add the curved ends
   to make the right hand end.

   Rub out the lines you
   don't want.