

Making Paper chains

Paper chains are made from equally sized strips of paper. Each loop is made from a strip of paper, which has one overlapping end glued to the other.

Question 1

How many 3cm by 18cm strips of paper can you cut from a sheet of A4 paper (21cm by 29.5)? Remember, each strip is made from one complete piece of paper.

Question 2

If each strip has an overlap of 1cm, what is the circumference of the loop made? What is the diameter?

Question 3

When two loops are attached there is an overlap of 0.5cm. How long would a chain of 12 loops be?

Hint: two loops with diameter 4cm would have a combined length of $(4+4-0.5)\text{cm} = 7.5\text{cm}$.

Question 4

A room has dimensions 5m by 7m. How far is it diagonally across the room?

Question 5

How many loops would a paper chain have if it reached diagonally across the room?

Extension

To make the chain hang in U shape, rather than stretching flat across the ceiling, 5 extra loops are added per whole metre of chain. How long would the chain diagonally across the room be? How many loops?

Challenge

How many sheets of paper would be required to make enough paper chain to hang in a U shape joining every corner of the room?

Review

Which mathematical skills have you used today?

