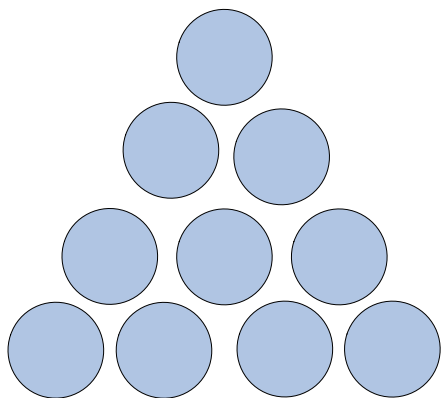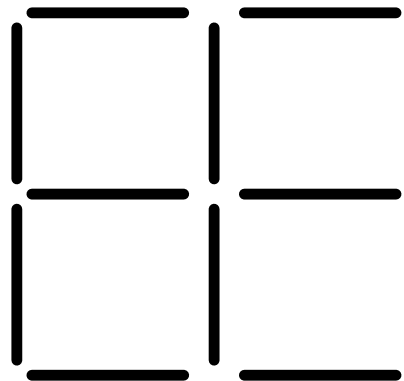## Smartie® Triangle

Can you flip this triangle upside down by moving only three Smarties?
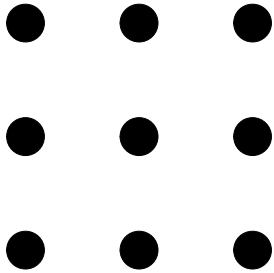

Toothpick Squares

Each line in this diagram represents a toothpick. Can you move two toothpicks to create seven squares?
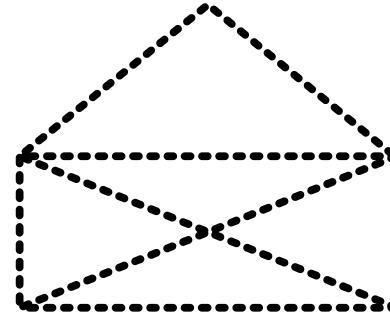
Nine Dots

Without lifting your pen from the paper, draw four straight lines that cross through every dot in the grid below.
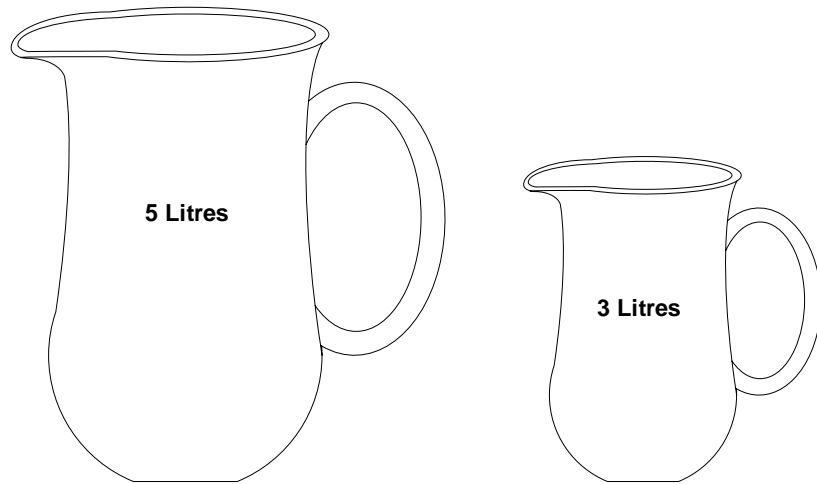
Draw an Envelope

Draw the figure below without lifting your pen from the paper, and without tracing any line more than once.
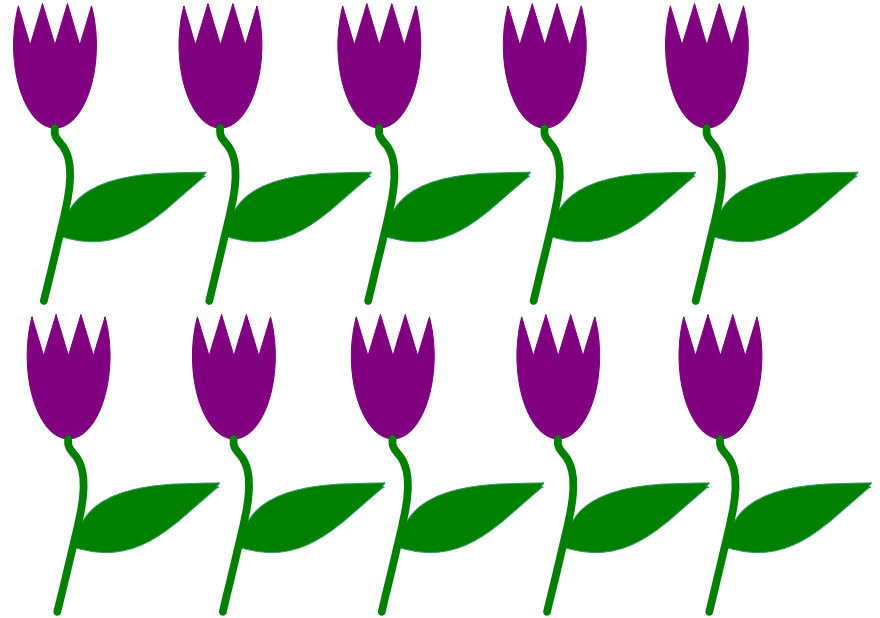
Water, Water…

You have a very large jug of water, and you have promised your friend 2 litres of it. You have two empty jugs: one that holds 3 litres, and one that holds 5 litres. How can you measure out exactly 2 litres for your friend?
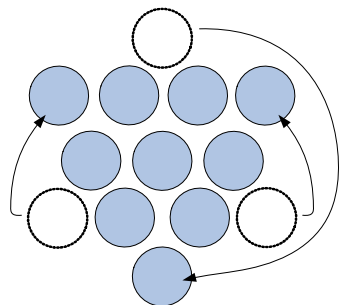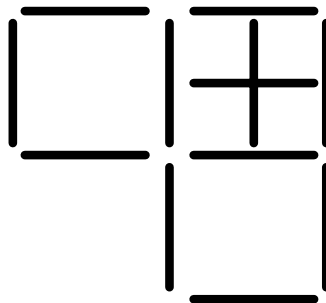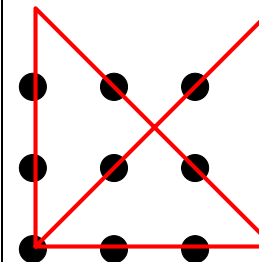
5 Litres

3 Litres

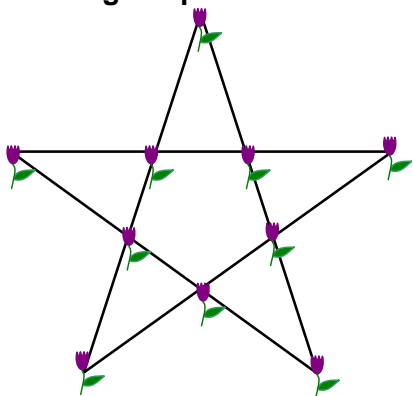A more challenging version: You and a friend have a jug of water that holds 8 litres, and you want to split it equally between you. Using the same two empty jugs, how can you measure out exactly 4 litres of water?
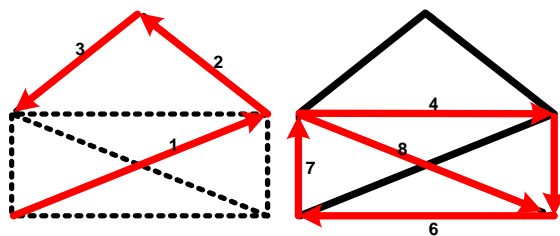
Planting Tulips

Your friend has just bought ten tulips to plant in her garden. You think they would look nice planted in five rows of four tulips each, but she doesn't think that's possible. How can you do it?

Smartie® Triangle:

Toothpick Squares:

Nine Dots:

Planting Tulips:

Draw an Envelope:
There are several solutions; here's one.

Water, Water…

a) Fill the 5-litre jug from your large jug.
Fill the 3-litre jug from the 5-litre jug.
That leaves 2 litres in the 5-litre jug, which you can give to your friend.

b) Fill the 5-litre jug from the 8-litre jug.
Fill the 3-litre jug from the 5-litre jug. This leaves 2 litres in the 5-litre jug.
Pour the water from the 3-litre jug back into the 8-litre jug.
Pour the 2 litres from the 5-litre jug into the three litre jug.
Fill the 5-litre jug from the 8-litre jug again.

Pour water from the 5-litre jug to fill up the 3-litre jug. It already had 2 litres in it, so you'll add 1 litre to fill it up, leaving 4 litres of water in the 5-litre jug.

Pour the water from the 3-litre jug back into the 8-litre jug. Now you have 4 litres of water each in the 5-litre and 8-litre jugs, and the 3-litre jug is empty.