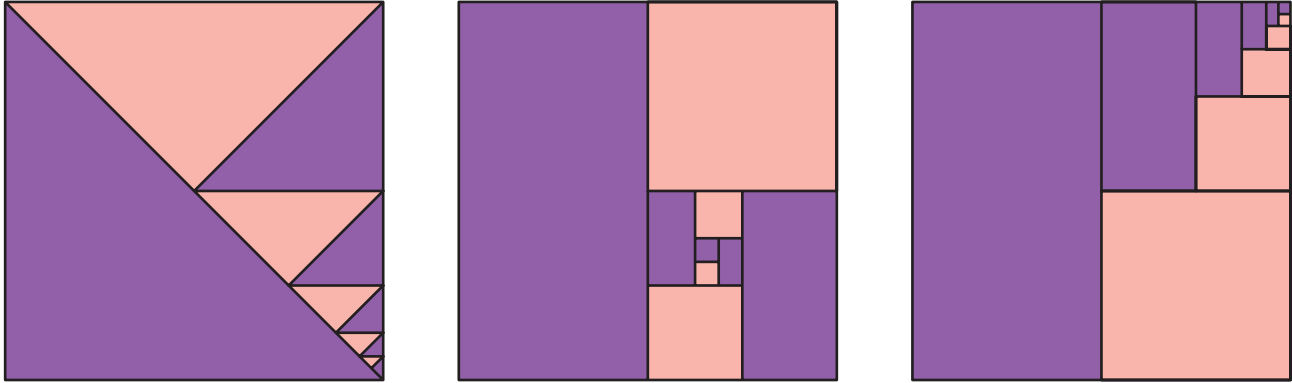# Diminishing returns

Problem sheet

The challenge is to recreate one of these three patterns with a partner.

Before you get started

You need two sheets of differently coloured paper (here we chose purple and pink). By folding and cutting, make two squares of the same size.

Making a pattern

Decide which colour square you are not going to cut up. It will form the base of your pattern. The other square you will cut and paste onto the base.

Decide which pattern (from the three above) you are going to recreate with your partner. Work together to make one copy.

On each part of the pattern (including the bits of the base showing through) write the fraction of the whole pattern it represents.

Make a note of each of the fractions as you go along.

Can you estimate what fraction of the whole square each colour covers?

Using the fractions that you have noted down, can you write down a sum that represents your estimate?