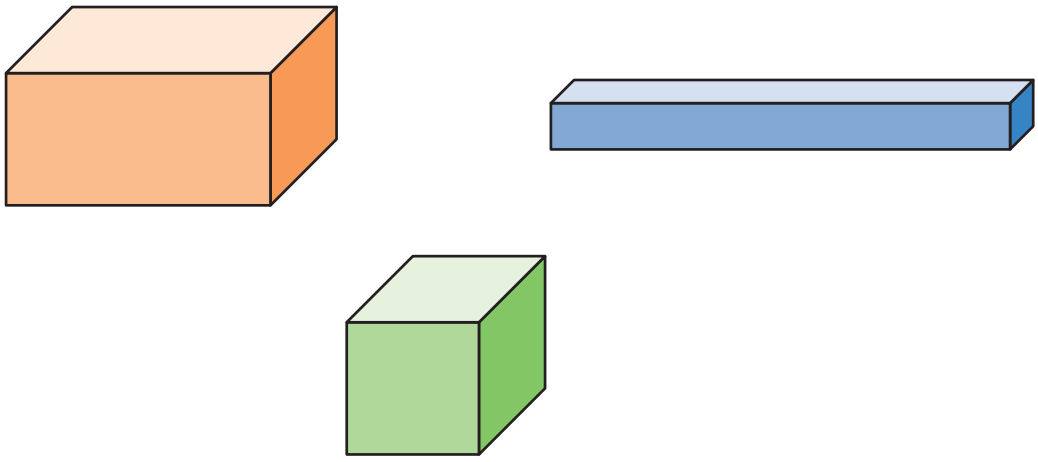
The Parcel

Problem sheet 1

Wrapping presents

Many presents come in boxes that are a cuboid shape. They might look like this.



These presents can be wrapped in A3 paper, which is roughly 40 cm by 30 cm.

The challenge is to find the largest cuboid that can be covered completely with an A3 sheet. You will probably want to stick to whole numbers of centimetres!

Rather than wrapping the cuboid like we might do a birthday present, let's think about it as if we're trying to have as little overlap as possible. In other words, we are not wrapping a real present, so assume the paper does not overlap.

What do we mean by 'largest'?

What does the net of a cuboid look like?

How can we match the dimensions of the cuboid with the piece of wrapping paper, given there are no overlaps?