

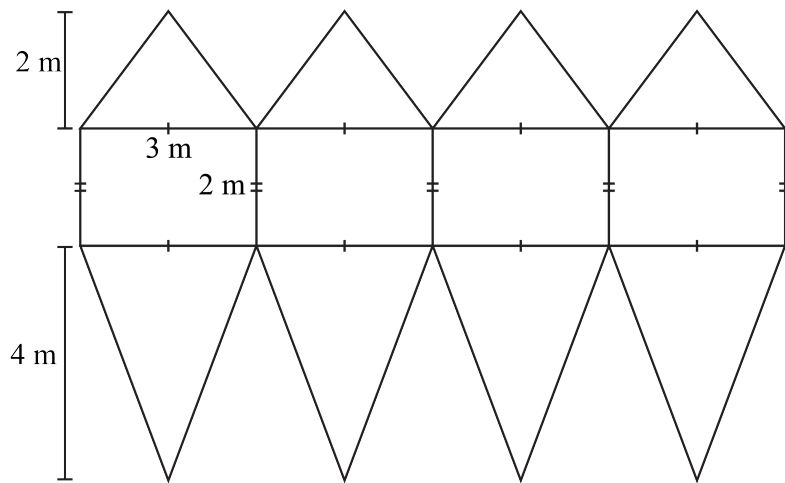
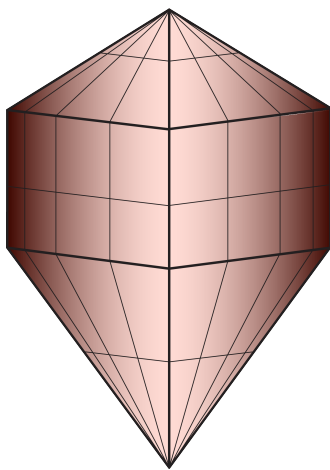


Problem of the Week

Problem B

How to Net a Balloon

In 1783, the Montgolfier brothers launched the first hot air balloon flight in history, using a balloon that they created out of fabric and paper. The flight was short but successful. For an art exhibit, Vijay used cardboard to create a model of a balloon inspired by the Montgolfier brothers' balloon. Vijay's model, as well as its net, are shown below. Note that these diagrams are not drawn to scale.



- (a) Calculate the total area of cardboard Vijay used in his model. This is also called the *surface area* of Vijay's model.
- (b) Suppose you have a sheet of paper measuring 90 cm by 60 cm. Draw a net for a balloon that you could make using this sheet of paper. Write the dimensions for each shape on your net.

