

Cosmo's Kennel

You need square grid paper a classmate

Activity

Robert has chosen a dog called Cosmo from the SPCA and wants to build a kennel for him. He is going to make it from a sheet of plywood measuring 2 400 millimetres x 1 200 millimetres.

He wants to build the biggest kennel he can from this sheet. It needs to have 4 walls and a sloping roof with 2 sides. It also needs a rectangular doorway at one end.

1. On square grid paper, draw a scale diagram of the sheet of plywood. Work out the best shape, size, and position for the 6 pieces.
2. Ask a classmate to look carefully at your plan and check that all the pieces will fit together to make the kennel.

Explain to your classmate how you chose these shapes and sizes.

3.
 - a. Work out the area of plywood used.
 - b. What percentage of the whole sheet is this?
 - c. Work out the ratio of plywood used to plywood wasted.
 - d. Compare the wastage in your plan with the wastage in your classmate's plan. If there is much difference, can you see why?

4. Robert wants to paint the outside of his completed kennel with 3 coats of paint.
- a. How much paint will he need to do the job?

It says on the can that 1 litre will cover about 12 square metres.

- b. A 500 millilitre can of paint costs \$24.95, and a 1 litre can costs \$34.95.

What is the best size of can for Robert to buy? Explain your reasoning to a classmate.



Investigation

Dogs come in all shapes and sizes. How do you know what size of kennel to buy or make for a dog? Find some guidelines and present them on a diagram or poster.