A ship is travelling in a south-westerly direction.

It changes course by turning 90° in an anticlockwise direction.

In what the direction will the ship now be travelling?

- South-East
- North
- North-East
- North-West

Carl made a cube using a length of wire.

Each edge of the cube used a 10-cm length of wire.

What was the total length of wire Carl used to make the cube?

- 60 cm
- 80 cm
- 120 cm
- 160 cm

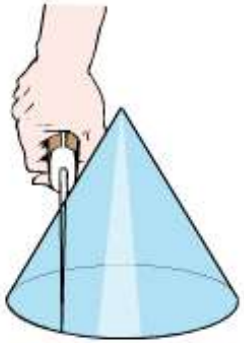
I am a 3-D shape. My net has two circular surfaces and one rectangular face.

What am I?

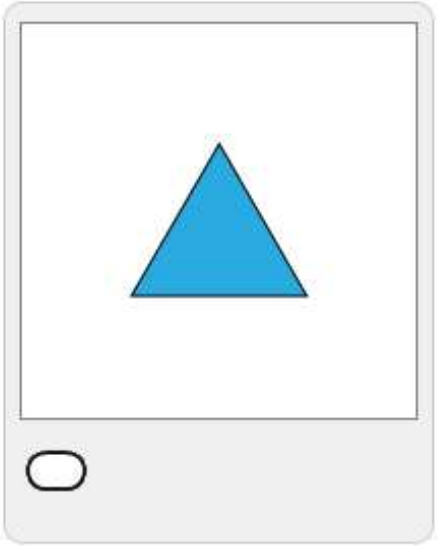
- cone
- cylinder
- sphere
- rectangular prism

A cone is cut with a knife.

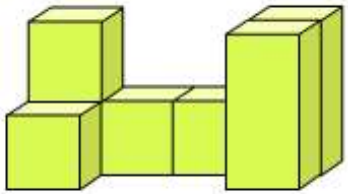
The cut is at right angles to the base of the cone as shown in the diagram.



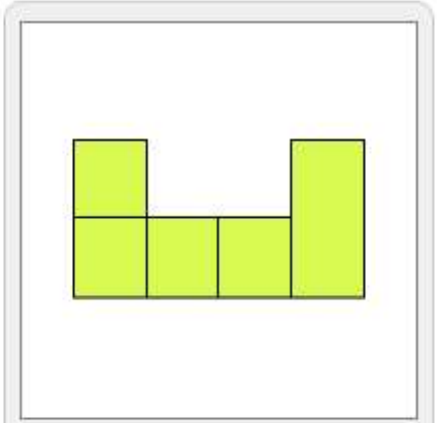
What is the shape of the cross-section?

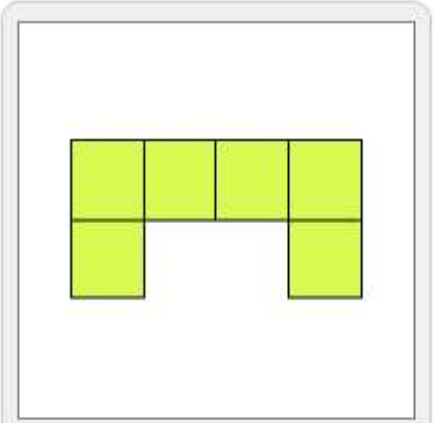


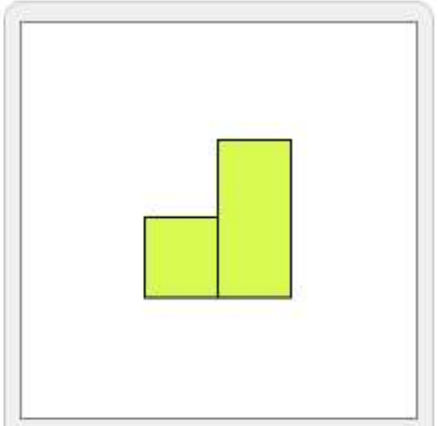
Feng built this solid using blocks.

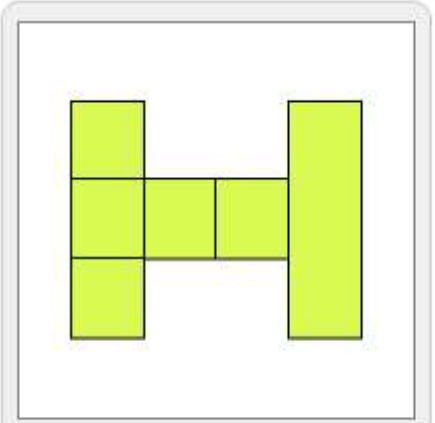


Which of these is the top view of Feng's solid?

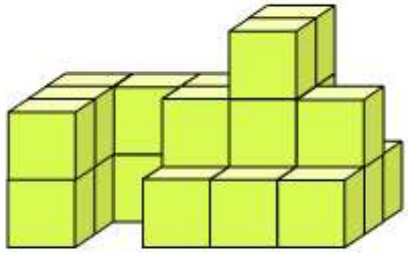




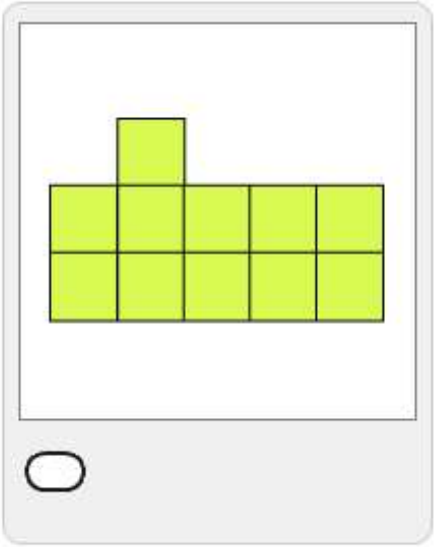


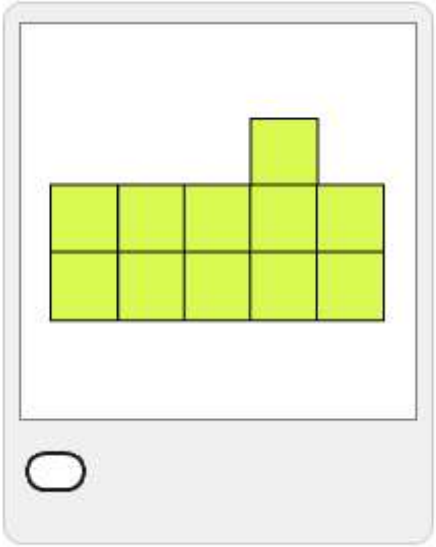


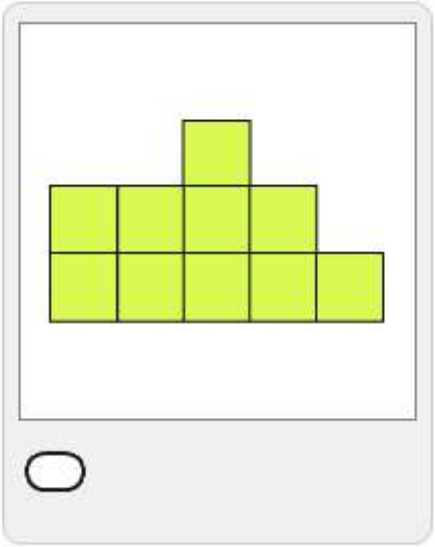
This object is made from 24 blocks.

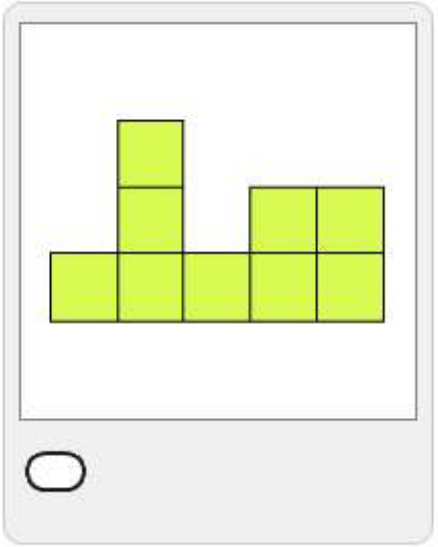


What is the view from the back?

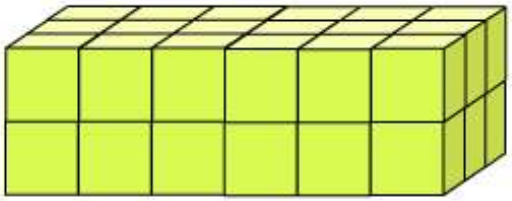








A solid was made up of 36 small cubes.



All of the six faces of the solid were painted.

After the paint was dry, the solid was pulled apart into the 36 small cubes.

What fraction of the cubes have more than two faces painted?

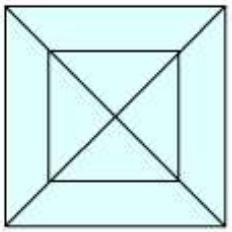
- $\frac{1}{9}$
- $\frac{2}{9}$
- $\frac{1}{6}$
- $\frac{1}{3}$

The shape on the left has been rotated in a **clockwise** direction to form the shape on the right.

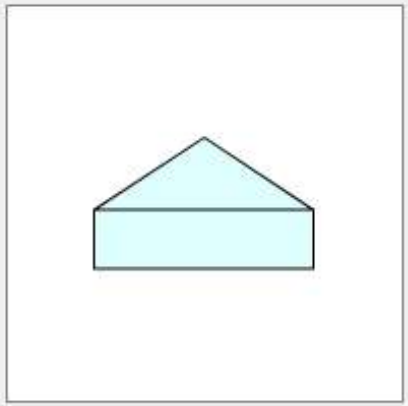
Through how many degrees has the rotation occurred?

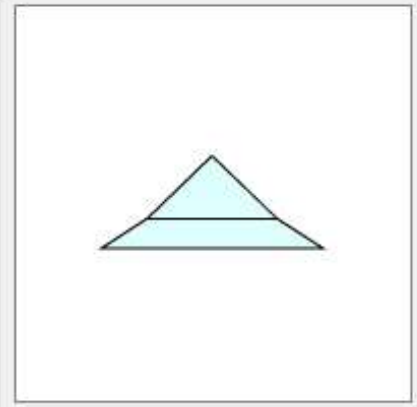
90°	135°	225°	270°

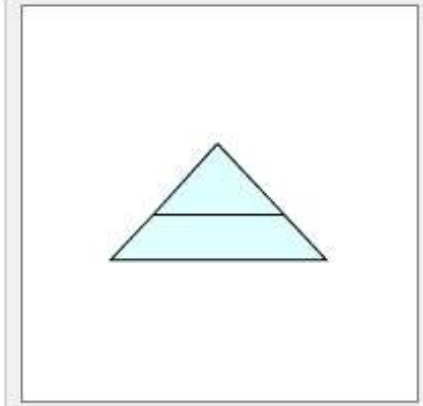
The diagram shows the view from the top of a solid:

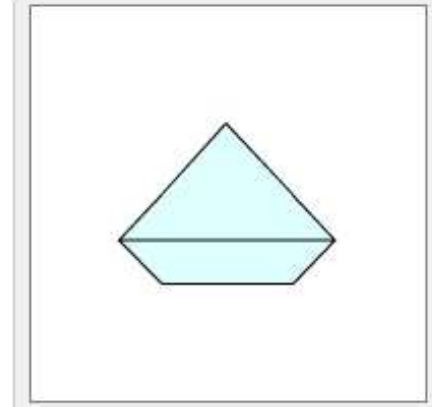


What could be the view of the solid from the front?

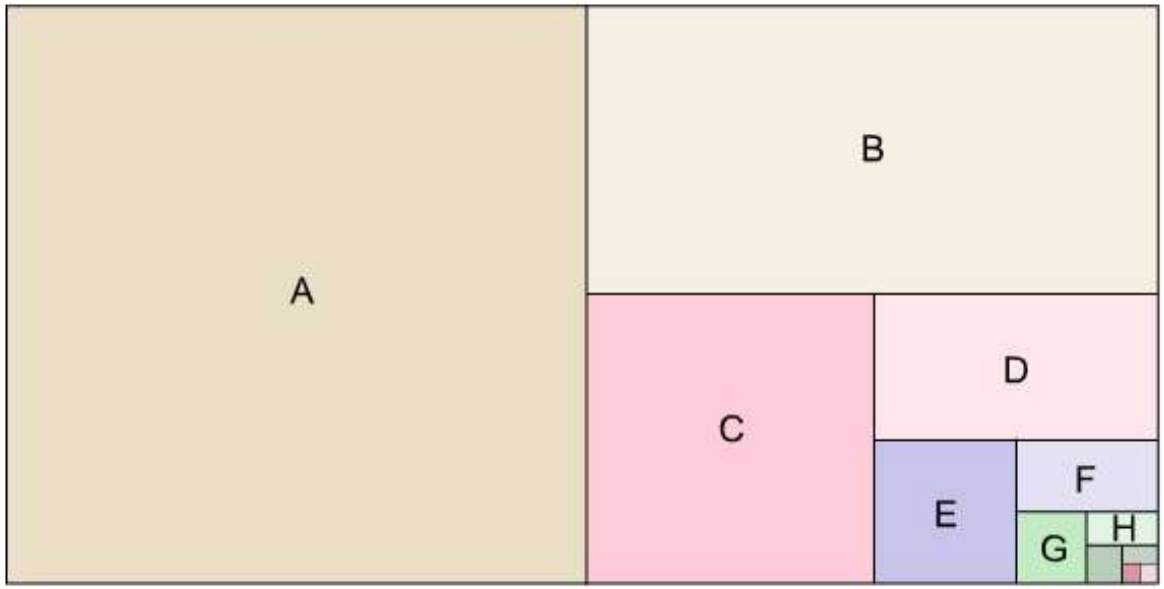






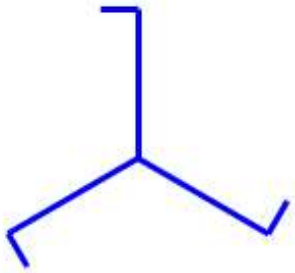


A rectangular piece of paper is divided into smaller and smaller rectangles. Rectangle A is half the size of the original rectangle. Rectangle B is half the size of Rectangle A. Rectangle C is half the size of Rectangle B and so on.



How many rectangles the size of Rectangle G will fit on the piece of paper?

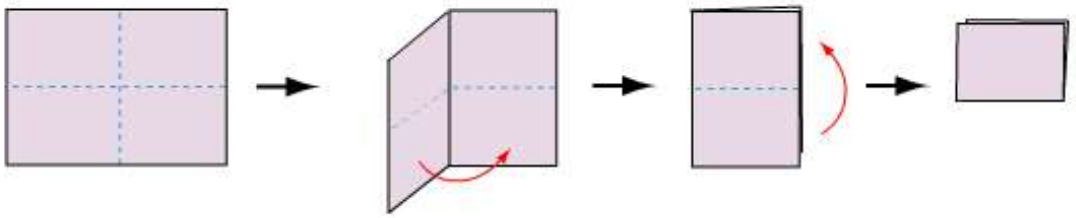
- 16
- 32
- 64
- 128



Through how many degrees could this shape be rotated in a clockwise direction so that it looks exactly the same?

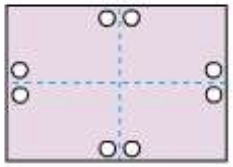
- 60 degrees
- 90 degrees
- 120 degrees
- 270 degrees

Anjali folded a sheet of paper in half and then folded it in half again.

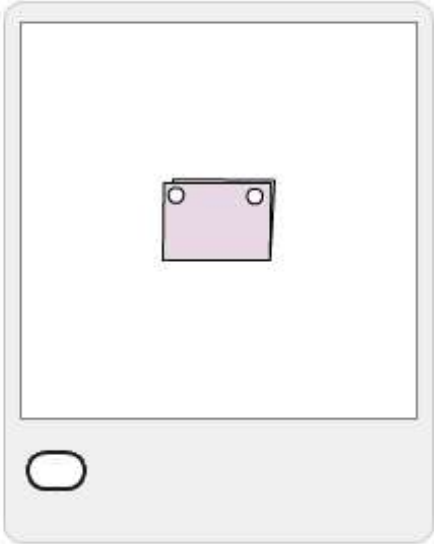


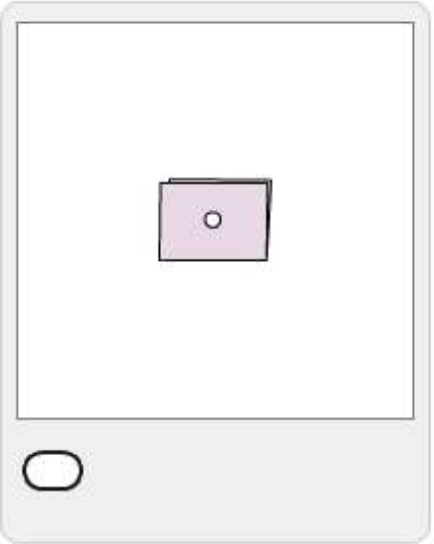
She then punched some holes through the folded paper.

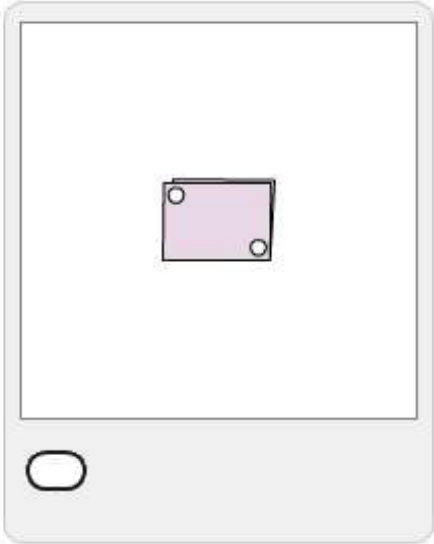
Her unfolded paper looked like this.

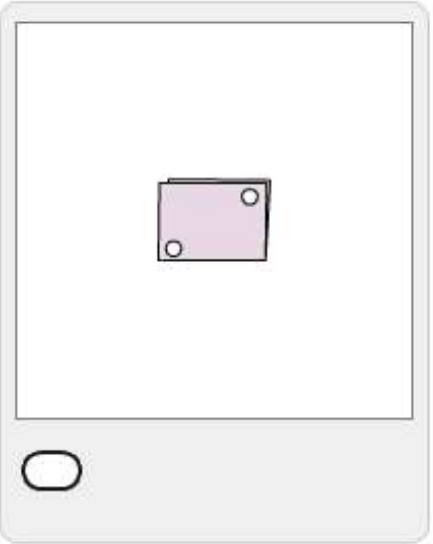


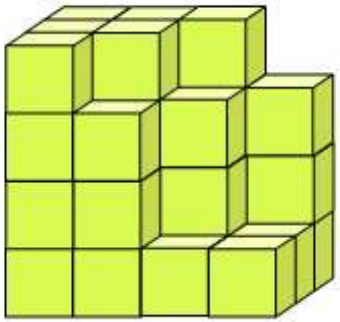
What did her paper look like before she unfolded it?







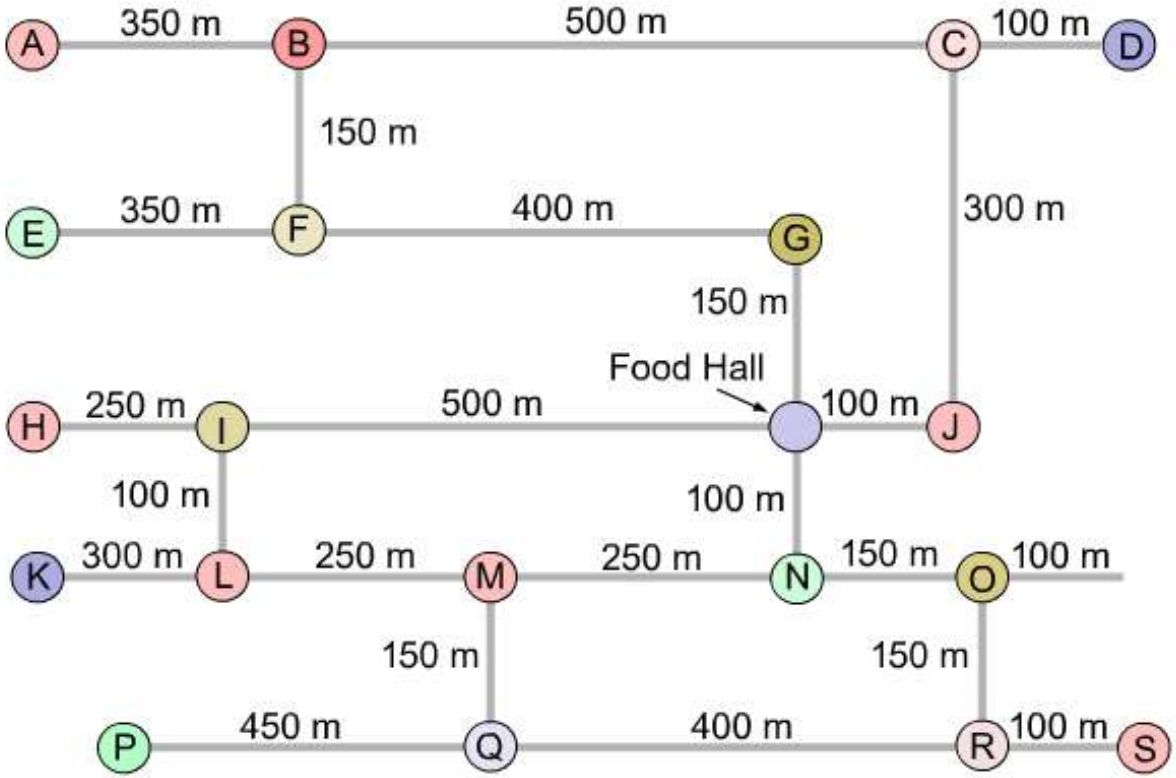




This solid is made up of a number of small cubes. How many of those small cubes are there?

- 30
- 32
- 35
- 36

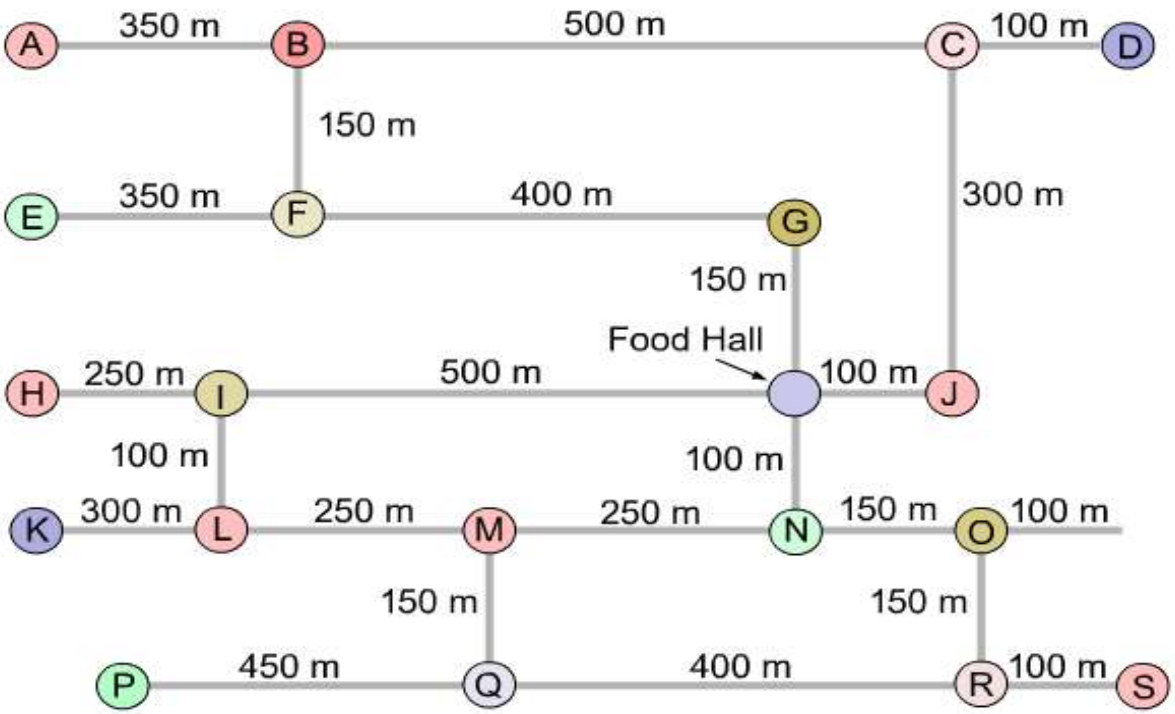
The diagram shows a map of a showground and the position of many of the exhibition buildings.



How much further is it to walk from the Food Hall to Q passing I and L on the way, than by the shortest route?

- 350 m
- 400 m
- 450 m
- 500 m

The diagram shows a map of a showground and the position of many of the exhibition buildings.

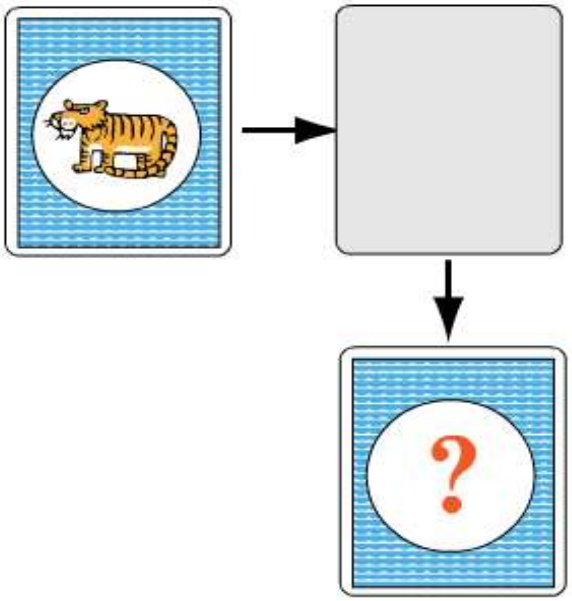


Four friends, Olivia, Chloe, Sienna and Amy, are at the Food Hall. They decide to each set off at the same time to visit a different exhibit and meet back at the Food Hall at the same time. Olivia is going to building A, Chloe to building K, Sienna to building S and Amy to P. They each travel the shortest route to and from the buildings.

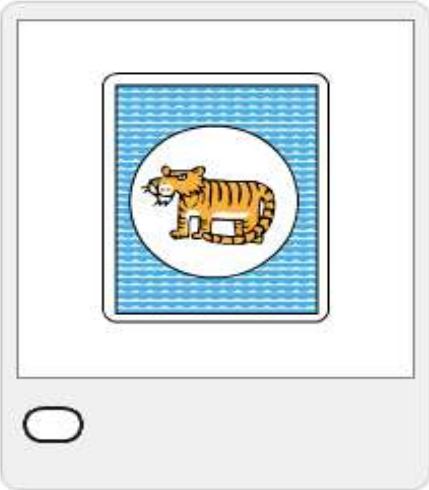
If they walk at the same speed to and from their buildings and do arrive back at the same time, which girl will spend the least amount of time at her exhibit?

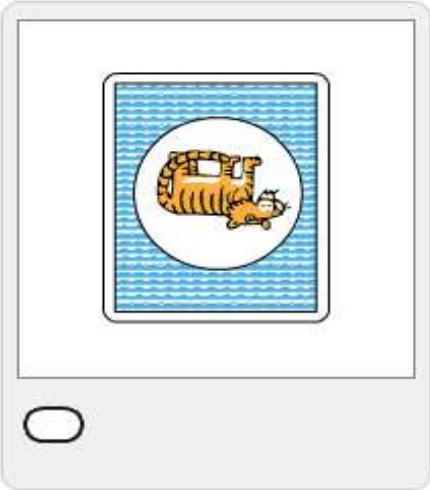
- Olivia
- Chloe
- Sienna
- Amy

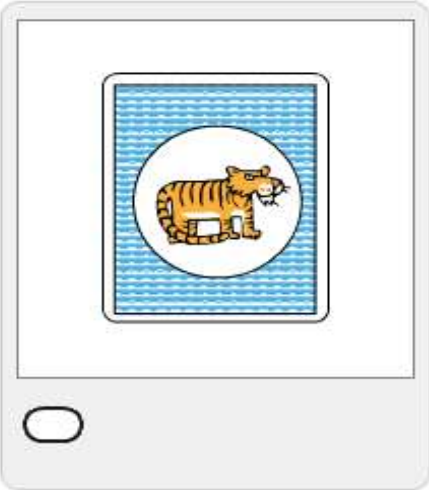
Karl is playing with a card. He flips it over the right side edge so that it is face down and then flips it over the bottom edge so that it is face up again.

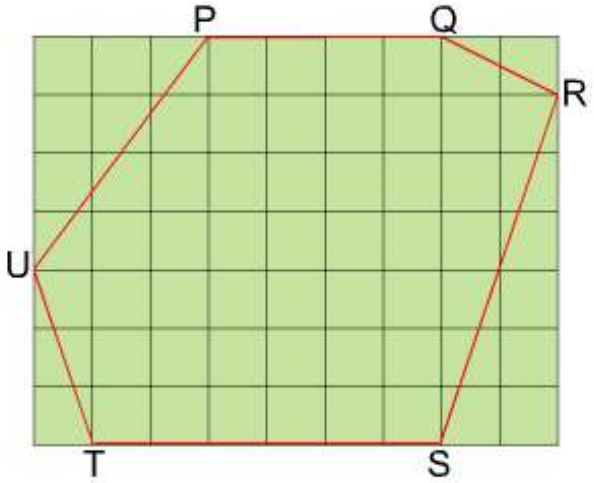


What does his card look like now?







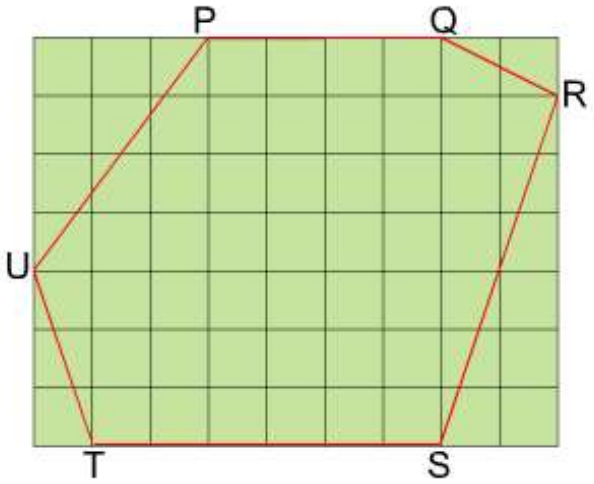


(Not shown actual size)

Each square on this map is 1 square centimetre. Each centimetre on the map represents an actual distance of 4 kilometres.

The actual distance from P to Q is

- 4 km
- 5 km
- 16 km
- 20 km



(Not shown actual size)

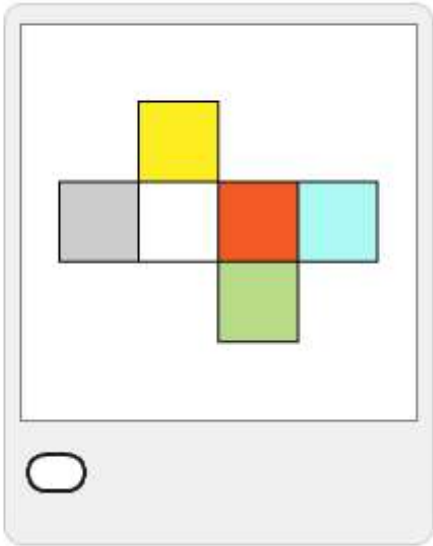
Each square on this map is 1 square centimetre. Each centimetre on the map represents an actual distance of 4 kilometres. The length on the map from P to U is 5 centimetres.

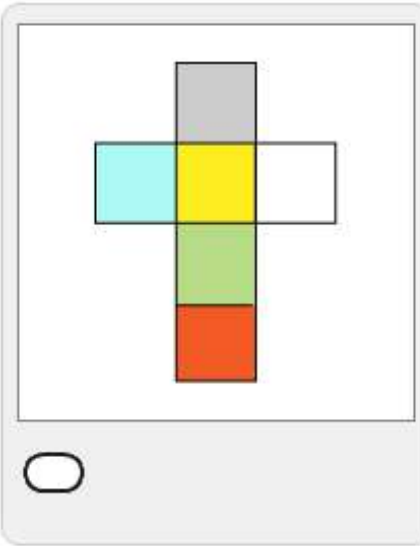
The actual distance from T to R is about

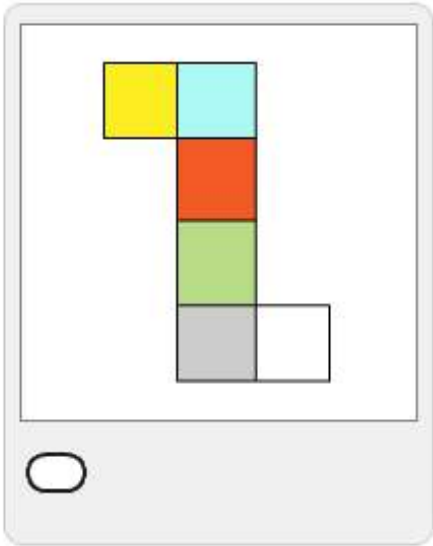
- 10 km
- 32 km
- 40 km
- 50 km

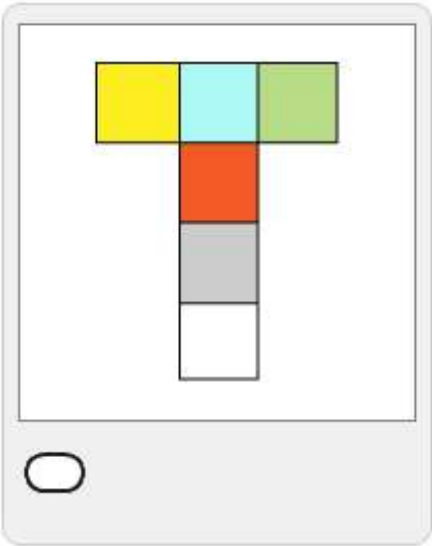
Here are two views of the same cube:

Which is the net of the cube?









Which of these sizes represents the size of the angle between the hands of a clock at 10 o'clock?

40°	45°	60°	75°