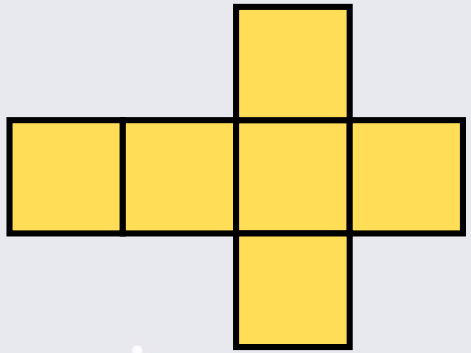
WALT REASON ABOUT 3-D SHAPES

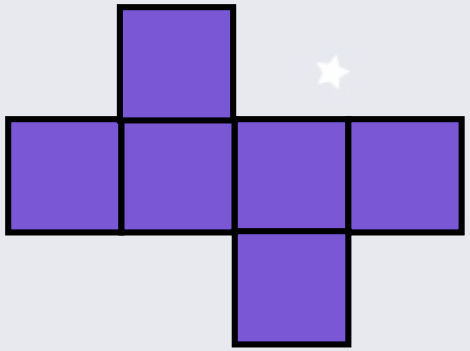
To be able to reason about 3-D shapes

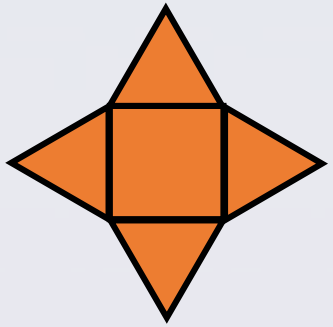
Maths Shed

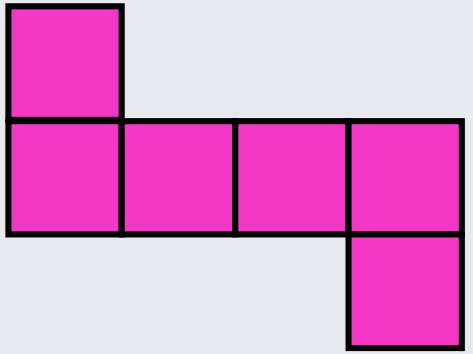
Starter:

Which one doesn't belong?









Explain your answer.

To be able to reason about 3-D shapes

Maths Shed

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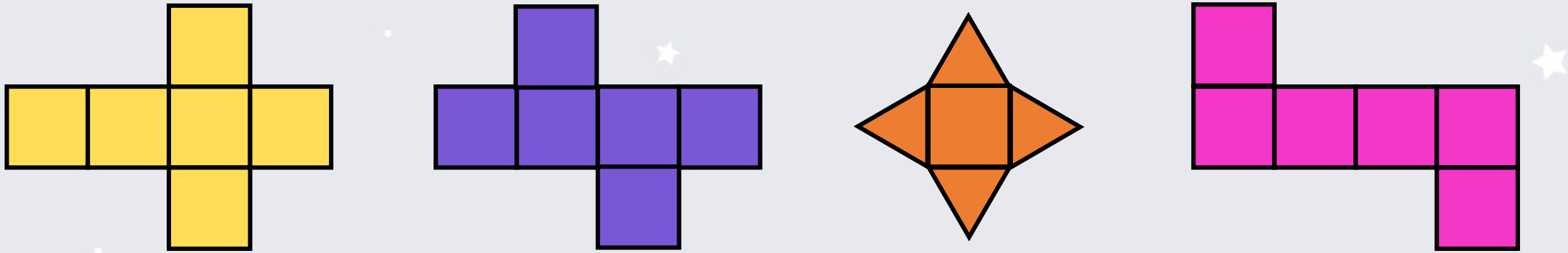
Which one doesn't belong?



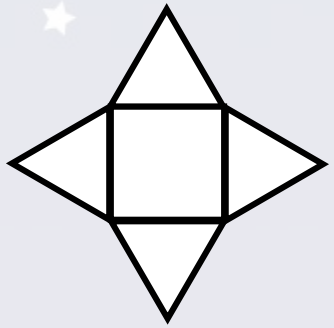
The orange net doesn't belong as it represents a square-based pyramid, whereas the other nets are for cubes.

To be able to reason about 3-D shapes

Maths Shed

Talking Time:

Which 3-D shape can be made from the net below?



Explain your answer.

To be able to reason about 3-D shapes

Maths Shed

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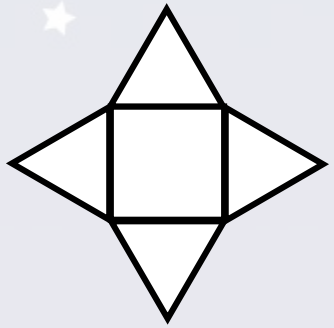
Which 3-D shape can be made from the net below?



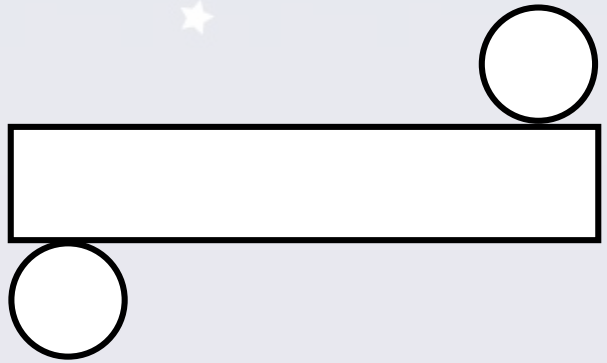
A square-based pyramid can be made as there is one square face and four triangular faces.

To be able to reason about 3-D shapes

Maths Shed

Talking Time:

Which 3-D shape can be made from the net below?



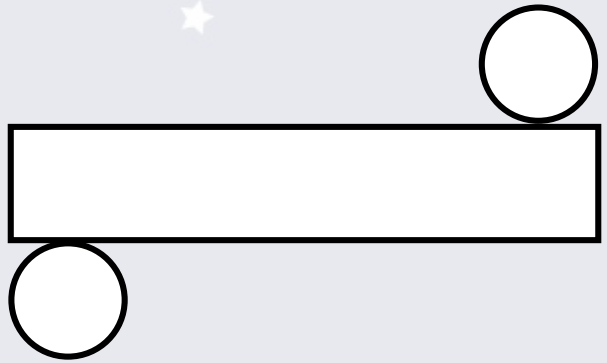
Explain your answer.

To be able to reason about 3-D shapes

Maths Shed

Talking Time:

Which 3-D shape can be made from the net below?



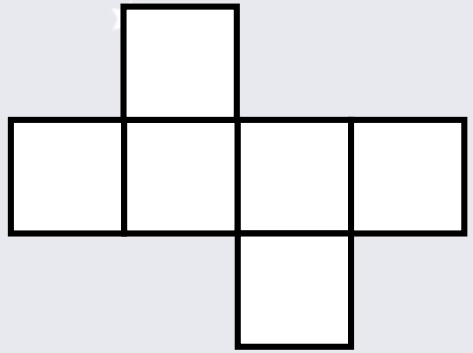
A cylinder can be made, as a cylinder has two flat circular faces and one curved surface.

To be able to reason about 3-D shapes

Maths Shed

Talking Time:

Which 3-D shape can be made from the net below?



Explain your answer.

To be able to reason about 3-D shapes

Maths Shed

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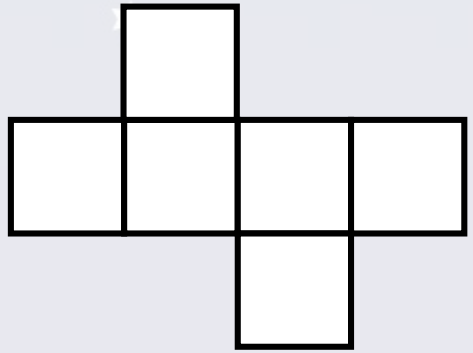
Which 3-D shape can be made from the net below?



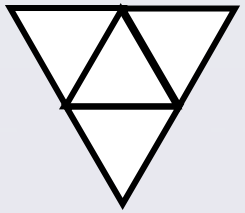
A cube can be made as there are six square faces.

To be able to reason about 3-D shapes

Maths Shed

Talking Time:

Which 3-D shape can be made from the net below?



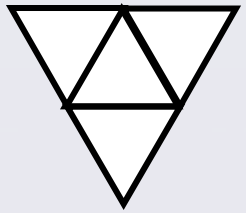
Explain your answer.

To be able to reason about 3-D shapes

Maths Shed

Talking Time:

Which 3-D shape can be made from the net below?



A triangle-based pyramid can be made as there are four triangular faces.

To be able to reason about 3-D shapes

Maths Shed

Talking Time:

Which 3-D shape can be made from the net below?

Explain your answer.

To be able to reason about 3-D shapes

Maths Shed

Talking Time:

Which 3-D shape can be made from the net below?

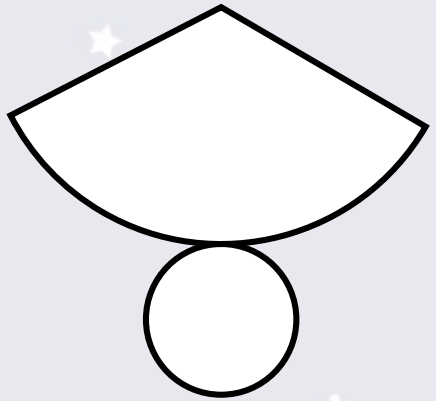
A cuboid can be made as a cuboid has six rectangular sides.

To be able to reason about 3-D shapes

Maths Shed

Talking Time:

Which 3-D shape can be made from the net below?



Explain your answer.

To be able to reason about 3-D shapes

Maths Shed

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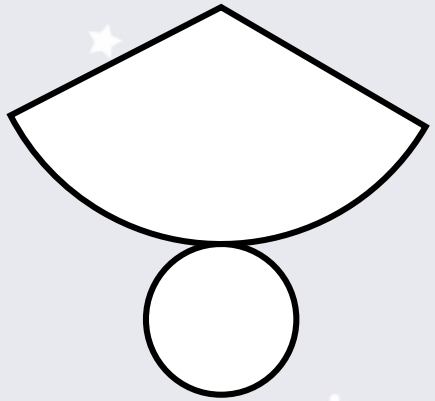

A cone prism can be made as a cone has one flat circular face, a curved surface and a vertex.

To be able to reason about 3-D shapes

Maths Shed

Talking Time:

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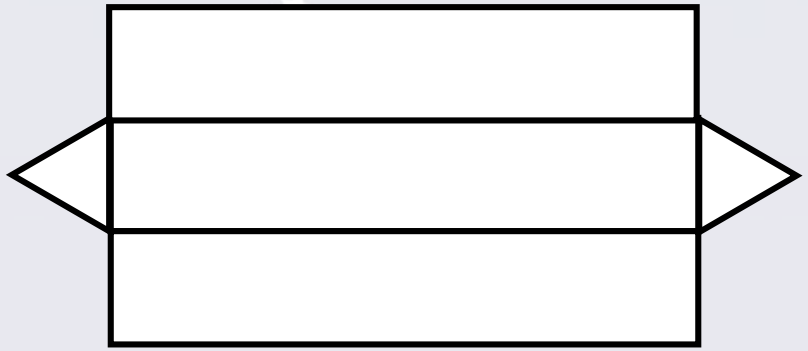

Explain your answer.

To be able to reason about 3-D shapes

Maths Shed

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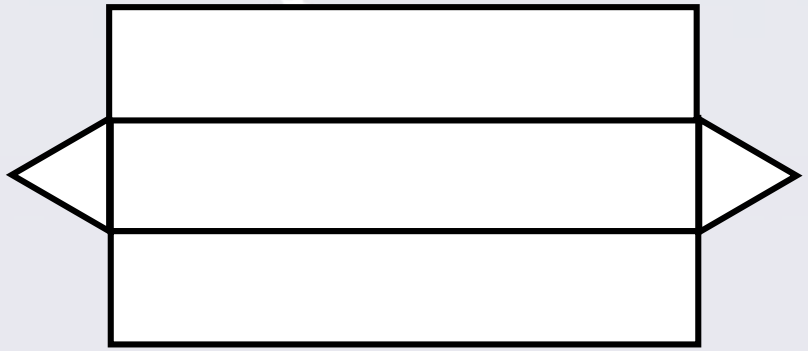
Which 3-D shape can be made from the net below?



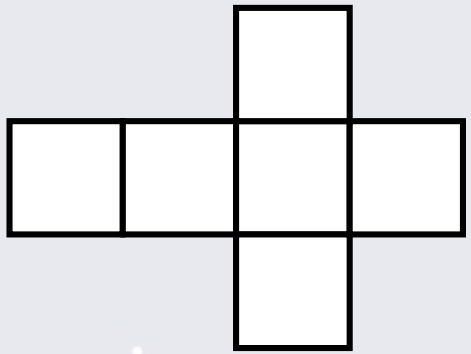
A triangular prism can be made as there are two triangular faces and three rectangular faces.

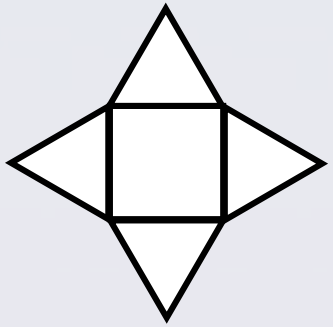
To be able to reason about 3-D shapes

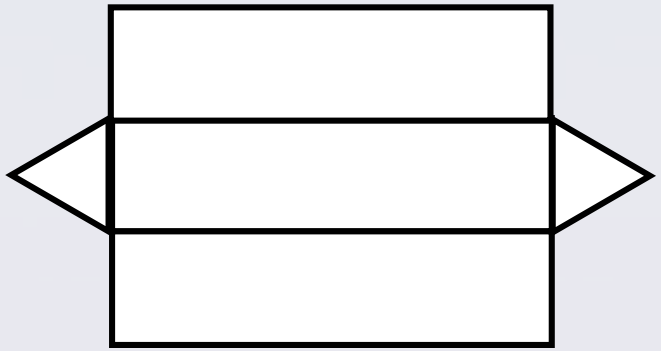
Maths Shed

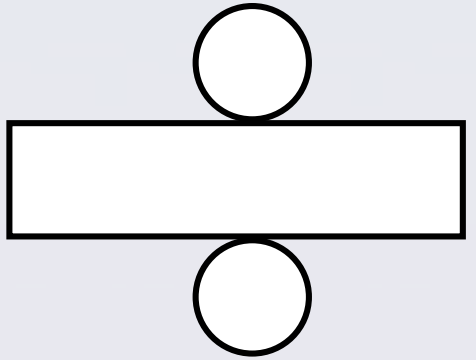
Activity 2:

Match each net to its name.









cylinder	triangular prism	cube	square-based pyramid

To be able to reason about 3-D shapes

Maths Shed

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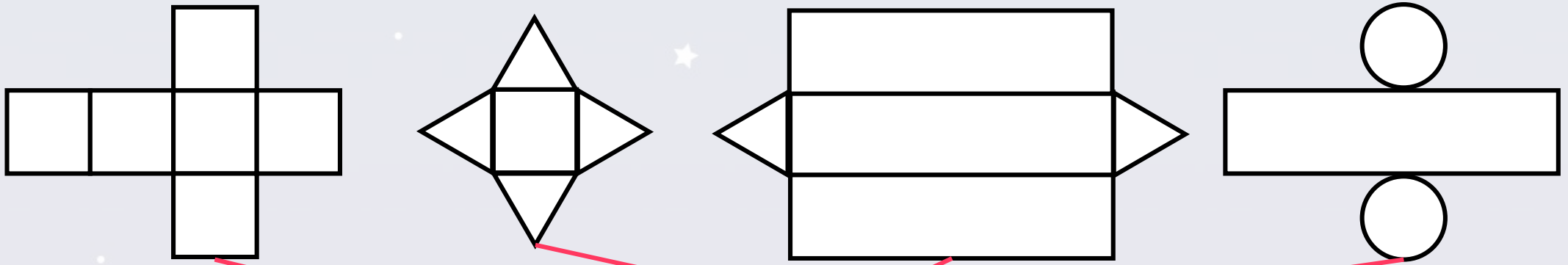


cylinder

triangular prism

cube

square-based pyramid

To be able to reason about 3-D shapes

Maths Shed

Activity 3:

Complete the sentences below:

A cube is made from ☐ squares.

A cylinder is made from a ☐ and two ☐.

A ☐ is made from four triangles and a square.

To be able to reason about 3-D shapes

Maths Shed

Activity 3:

Complete the sentences below:

A cube is made from six squares.

A cylinder is made from a rectangle and two circles.

A square-based pyramid is made from four triangles and a square.

To be able to reason about 3-D shapes

Maths Shed

Activity 4:

James says, “A cuboid is made from two squares and four rectangles.”

Is his statement always, sometimes or never true?

Build examples using multilink cubes, then provide sketches to prove your response.

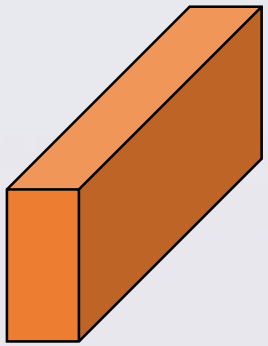
To be able to reason about 3-D shapes

Maths Shed

Activity 4:

James says, “A cuboid is made from two squares and four rectangles.”

James’s statement is only sometimes true.
For example, the yellow cuboid below could be made from two squares and four rectangles. However, the orange cuboid (and others like it) would be made from six rectangles.

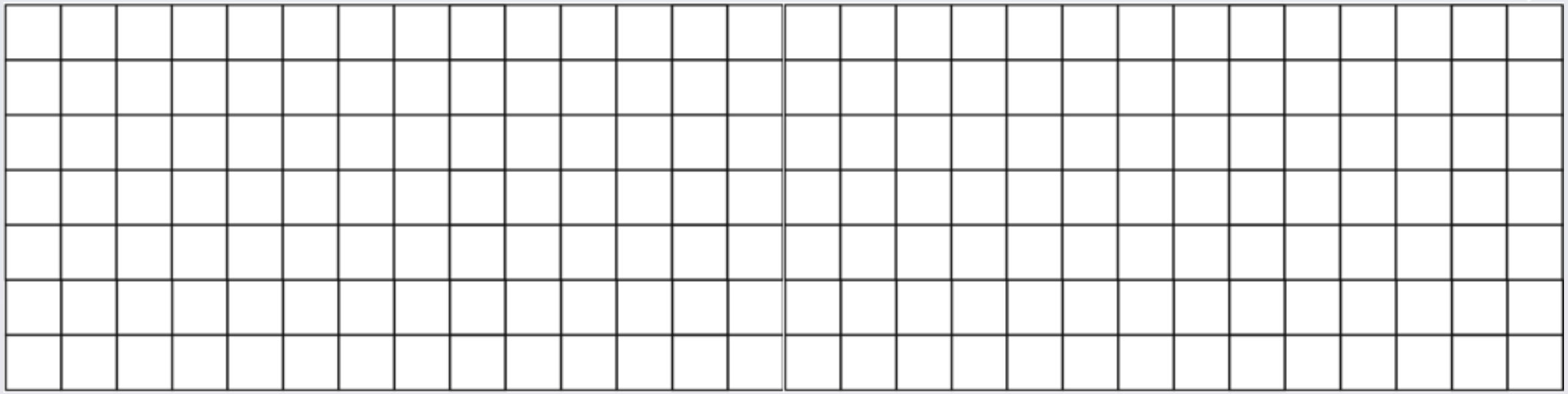


To be able to reason about 3-D shapes

Maths Shed

Activity 5:

Sketch various 3-D shapes' nets, including pyramids and triangular prisms, on square grid paper. Can your partner guess which shape each net represents?



To be able to reason about 3-D shapes

Maths Shed

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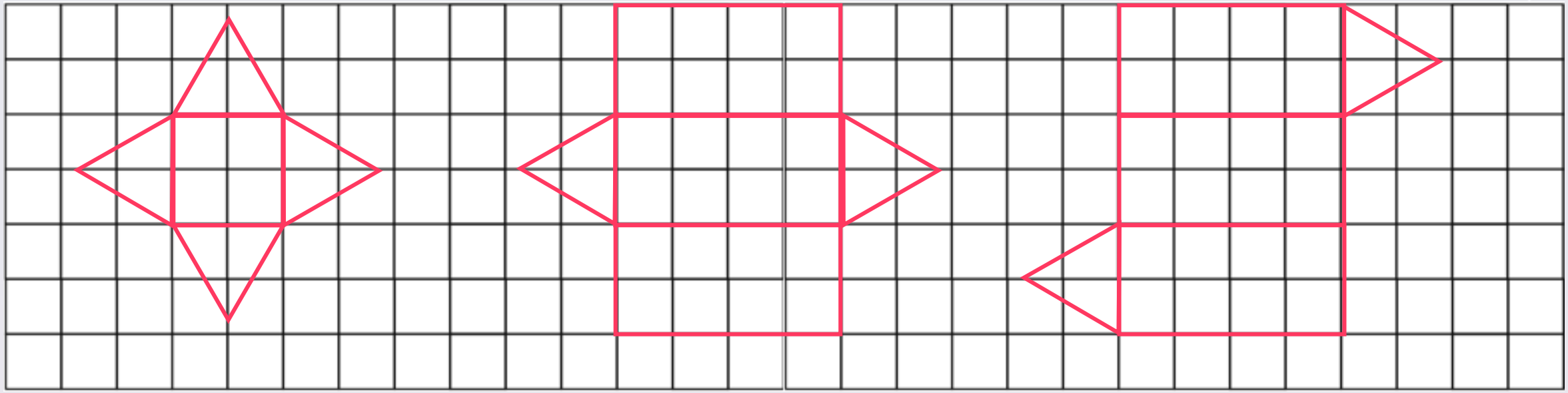

To be able to reason about 3-D shapes

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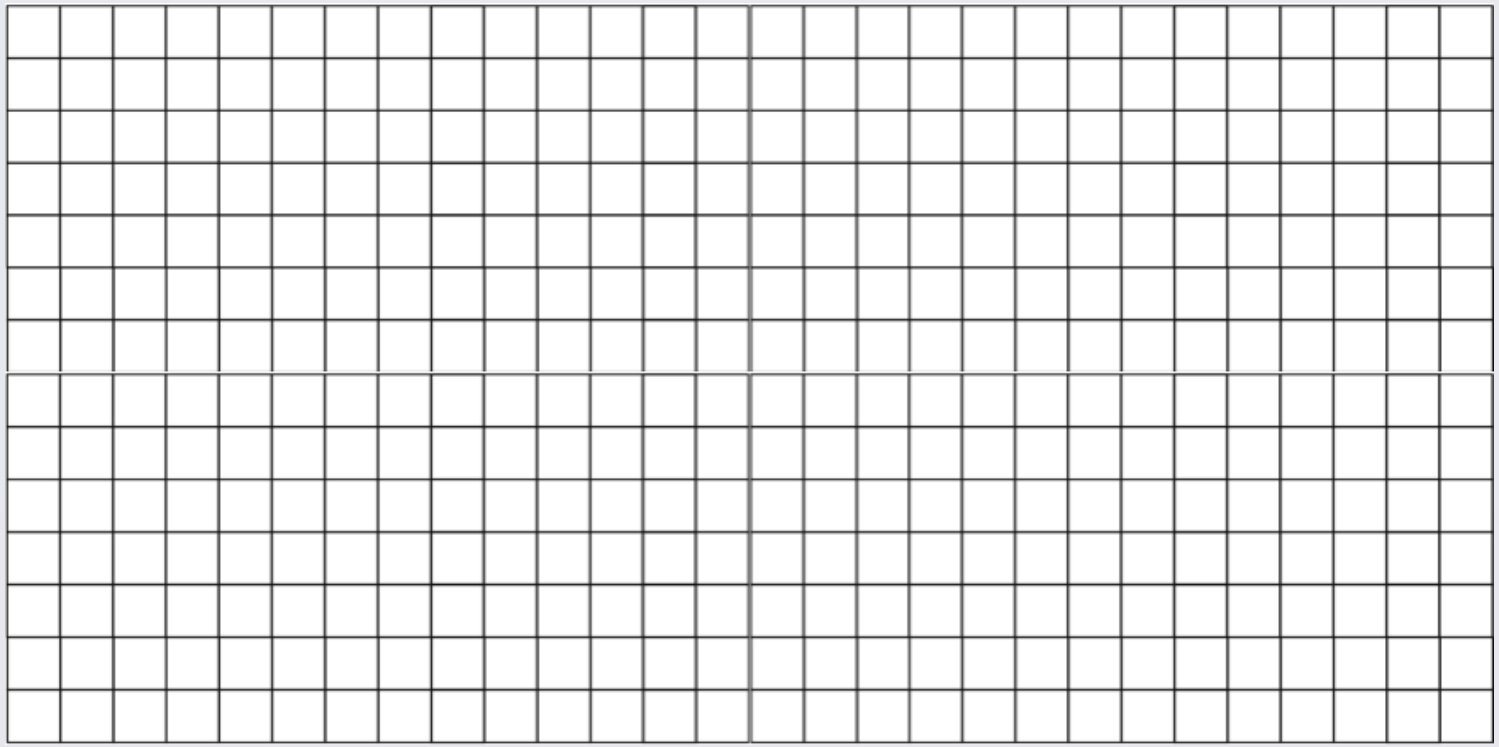
Activity 6:

Draw a net for a 2 cm, by 4 cm, by 6 cm cuboid on grid paper.



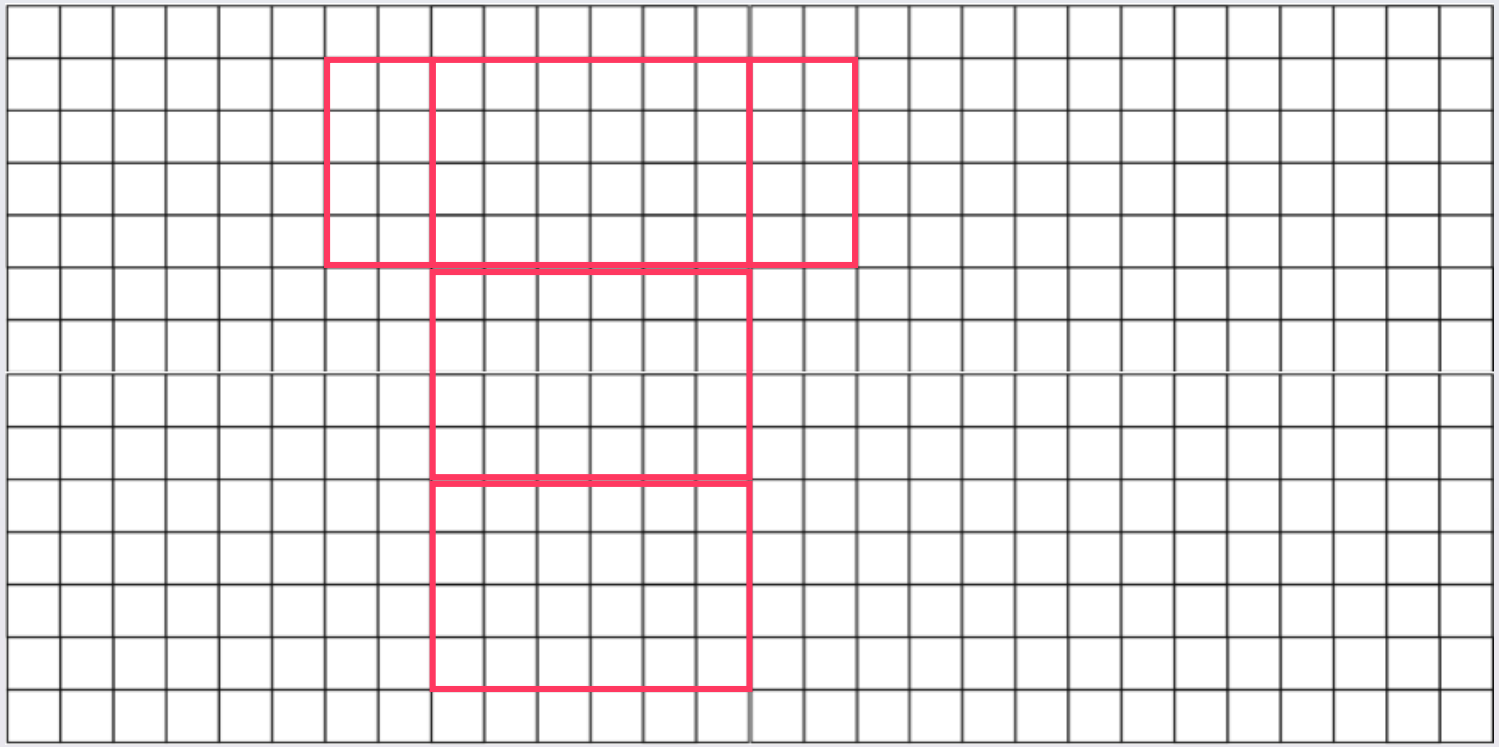
To be able to reason about 3-D shapes

Maths Shed

Activity 6:

Draw a net for a 2 cm, by 4 cm, by 6 cm cuboid on grid paper.

Example:

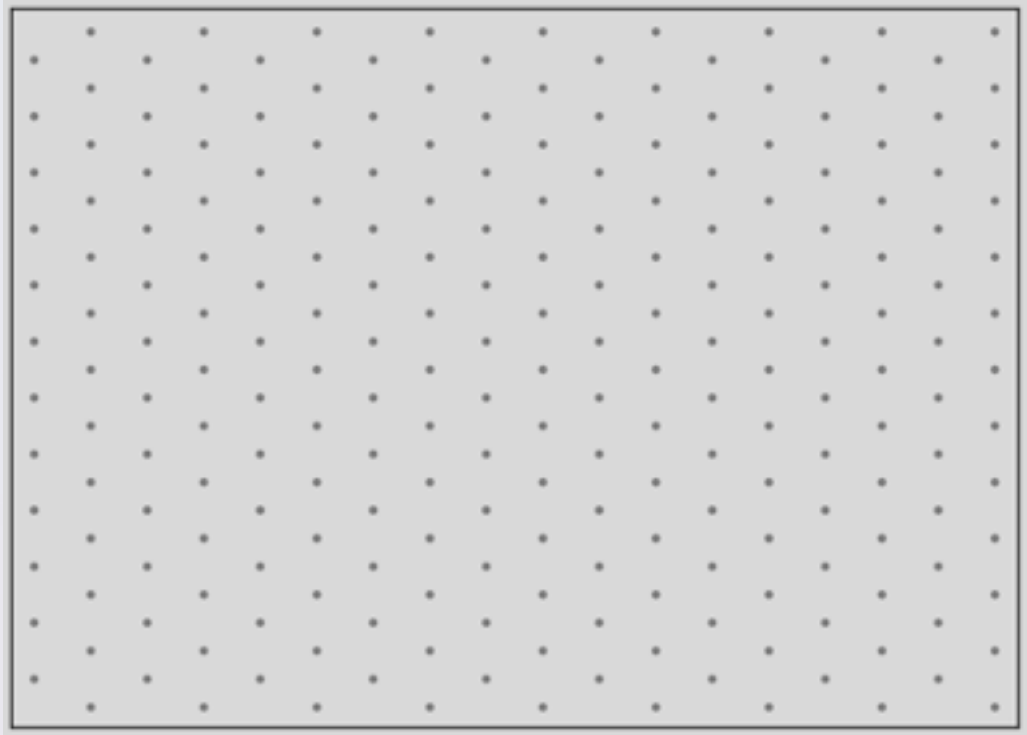


To be able to reason about 3-D shapes

Maths Shed

Activity 6:

Build cuboids using multilink cubes, then sketch them on isometric paper.



To be able to reason about 3-D shapes

Maths Shed

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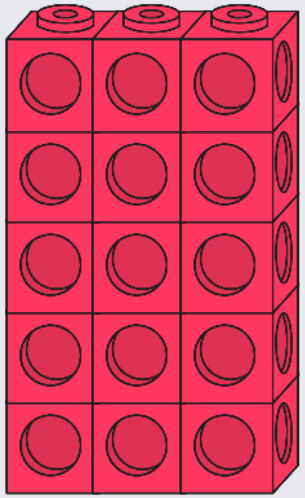
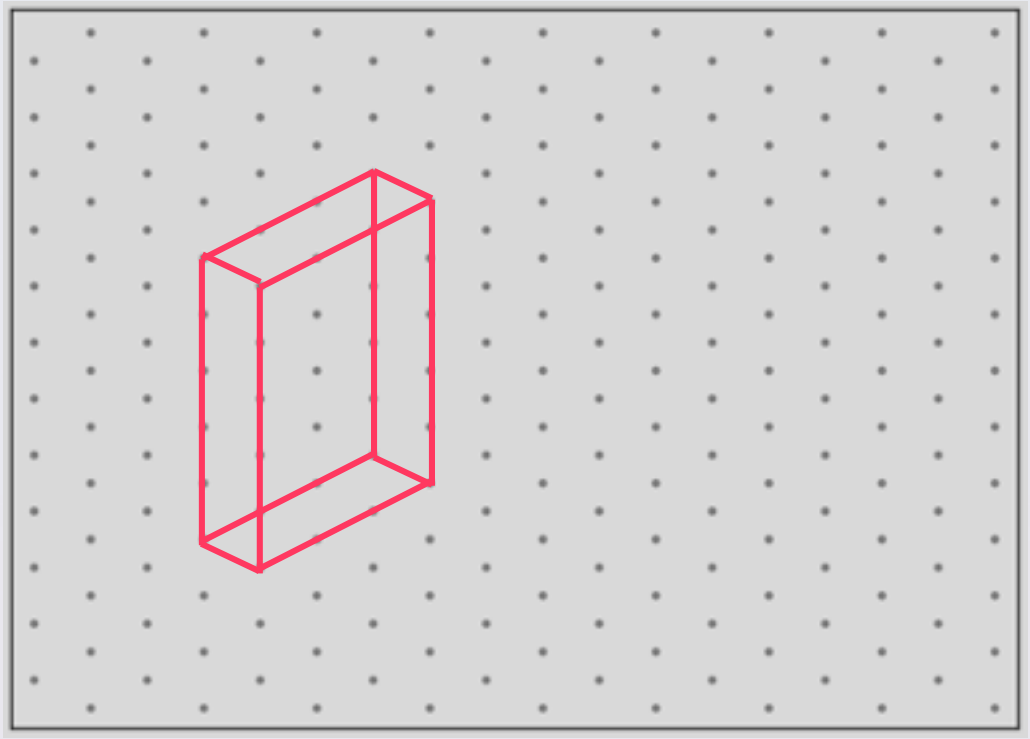
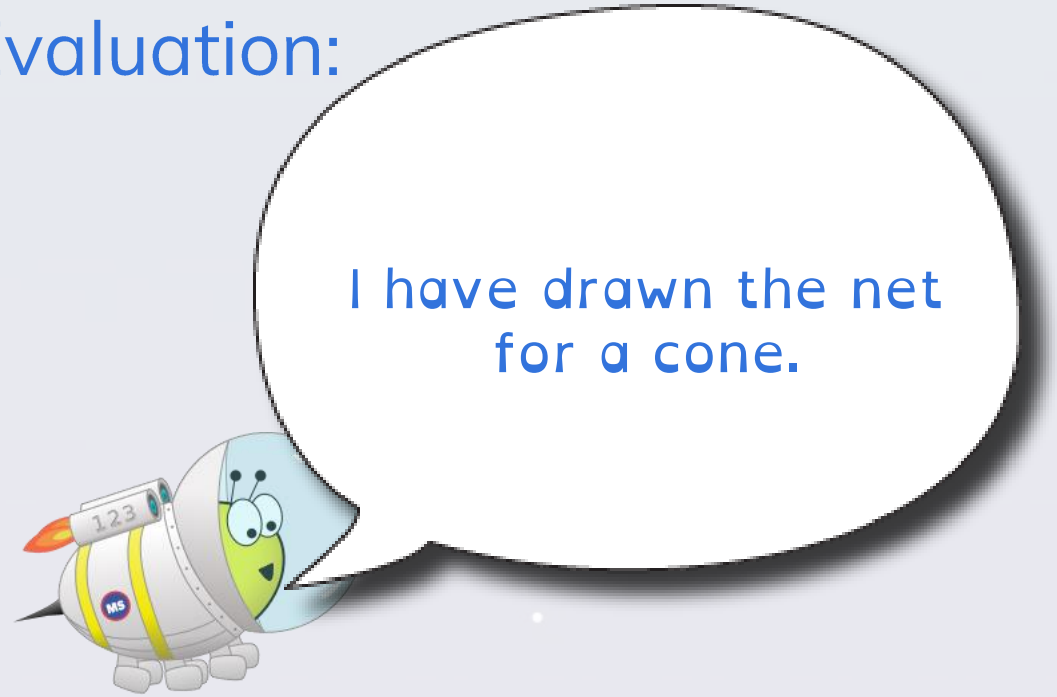


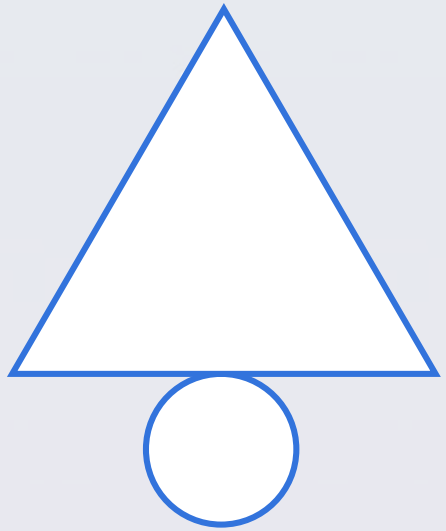


To be able to reason about 3-D shapes

Maths Shed

Evaluation:





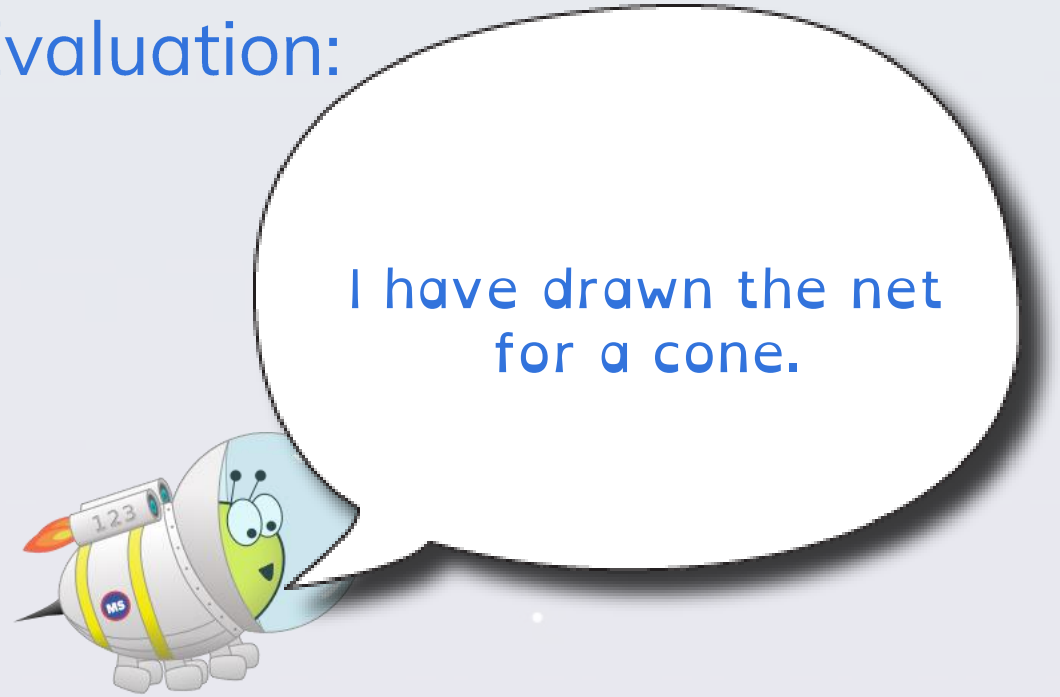
Do you agree?

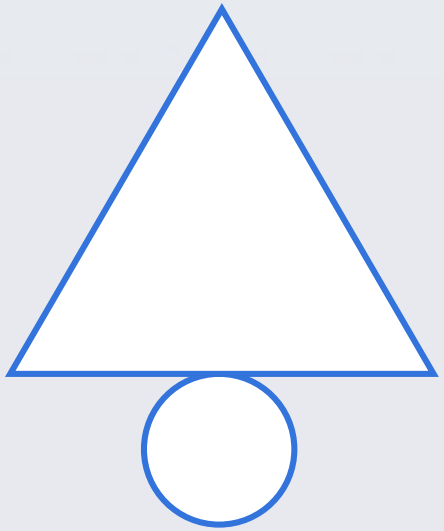
Provide sketches to help explain you answer.

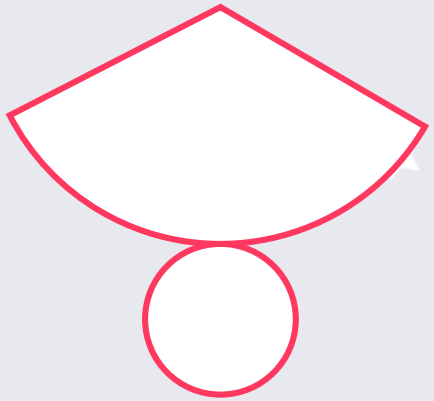
To be able to reason about 3-D shapes

Maths Shed

Evaluation:







No, I do not agree a cone has two parts to its net. The first part is a circle, which is correct; the second part is an arc and two straight lines, as shown in red.