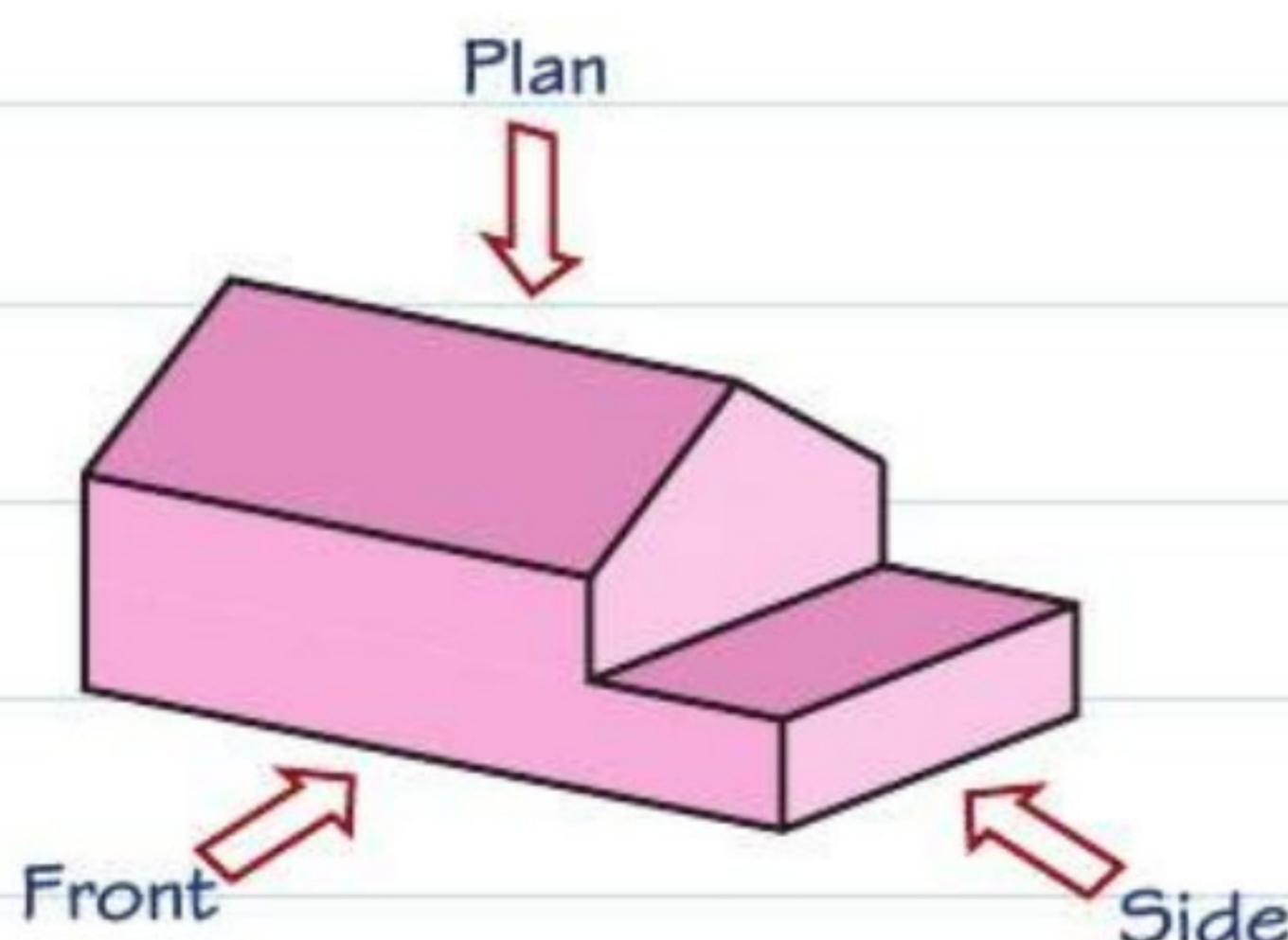


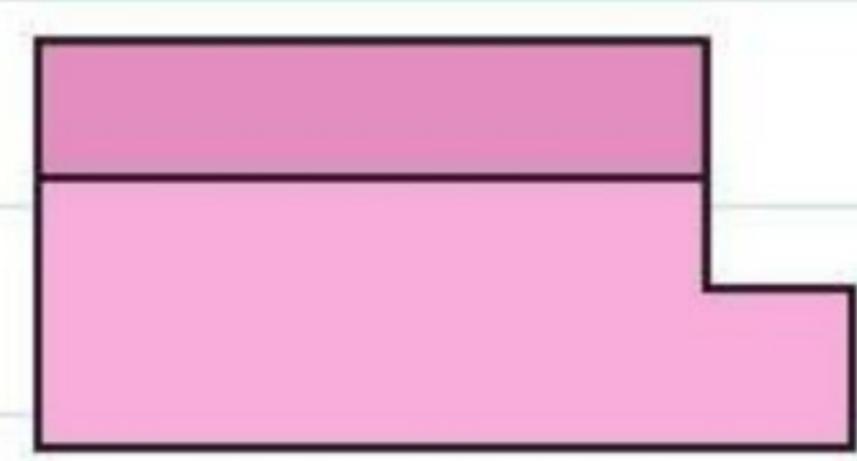
Plans and elevations

Plans and elevations are 2-D drawings of 3-D shapes as seen from different directions.



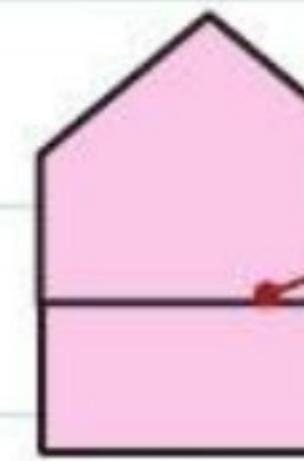
Plan

The **plan** is the view from above.



Front elevation

The **front elevation** is the view from the front.



Side elevation

This line shows a change in depth.

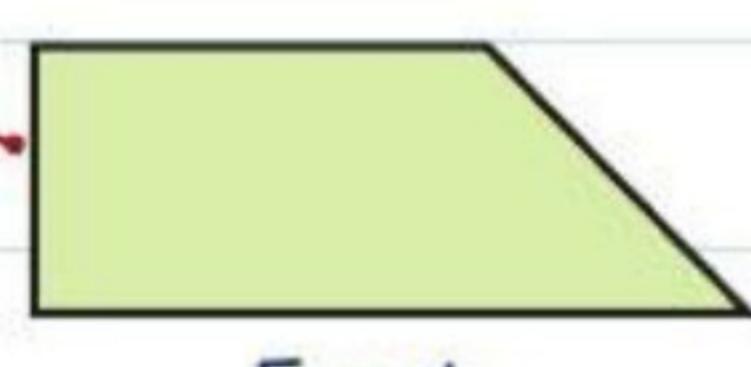
The **side elevation** is the view from the side.

You might have to deduce properties of a solid or sketch it from a plan and elevations.



Plan

If the views from two directions are rectangles the shape is a **prism**.



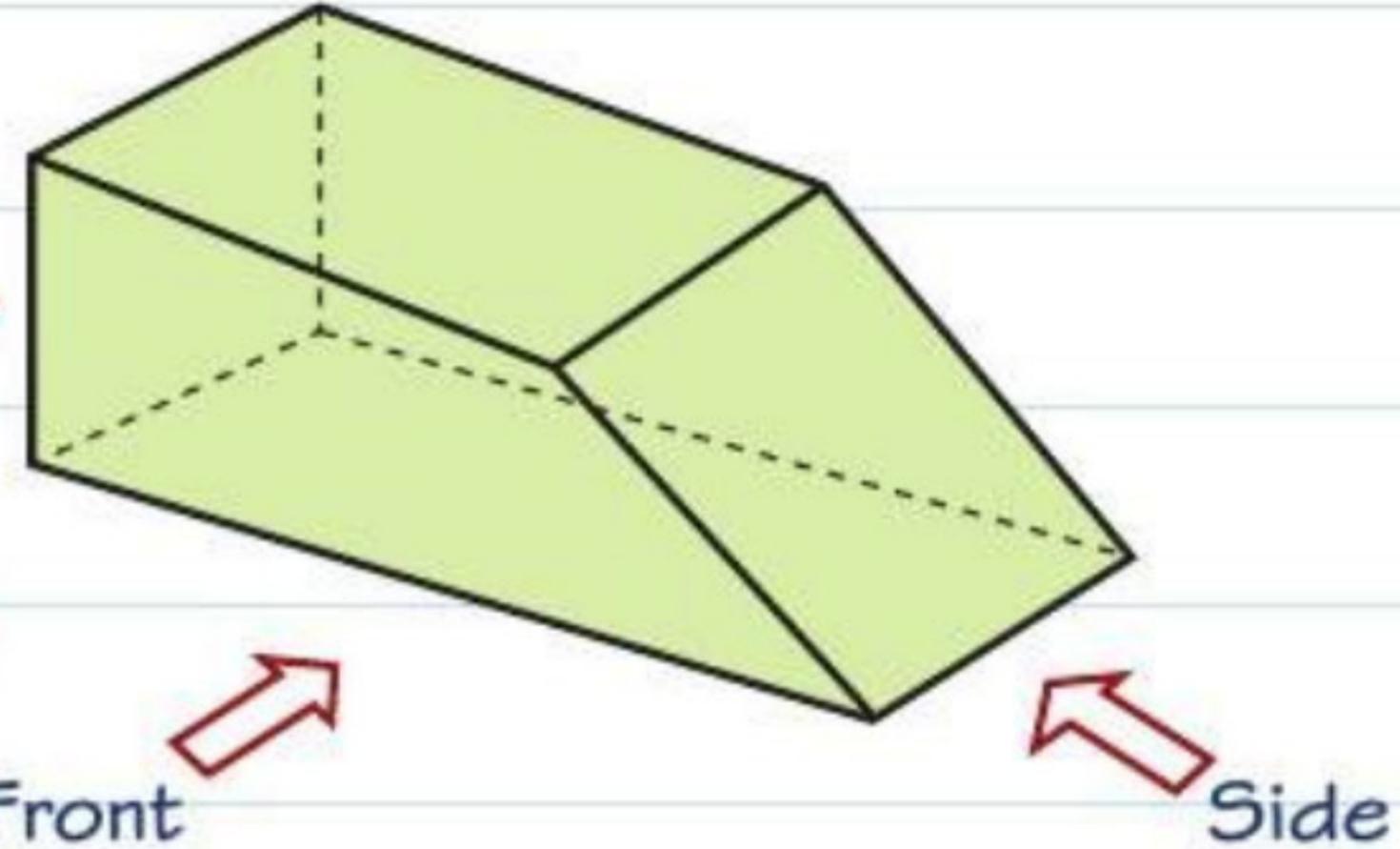
Front elevation



Side elevation

This elevation shows you the **cross-section** of the prism.

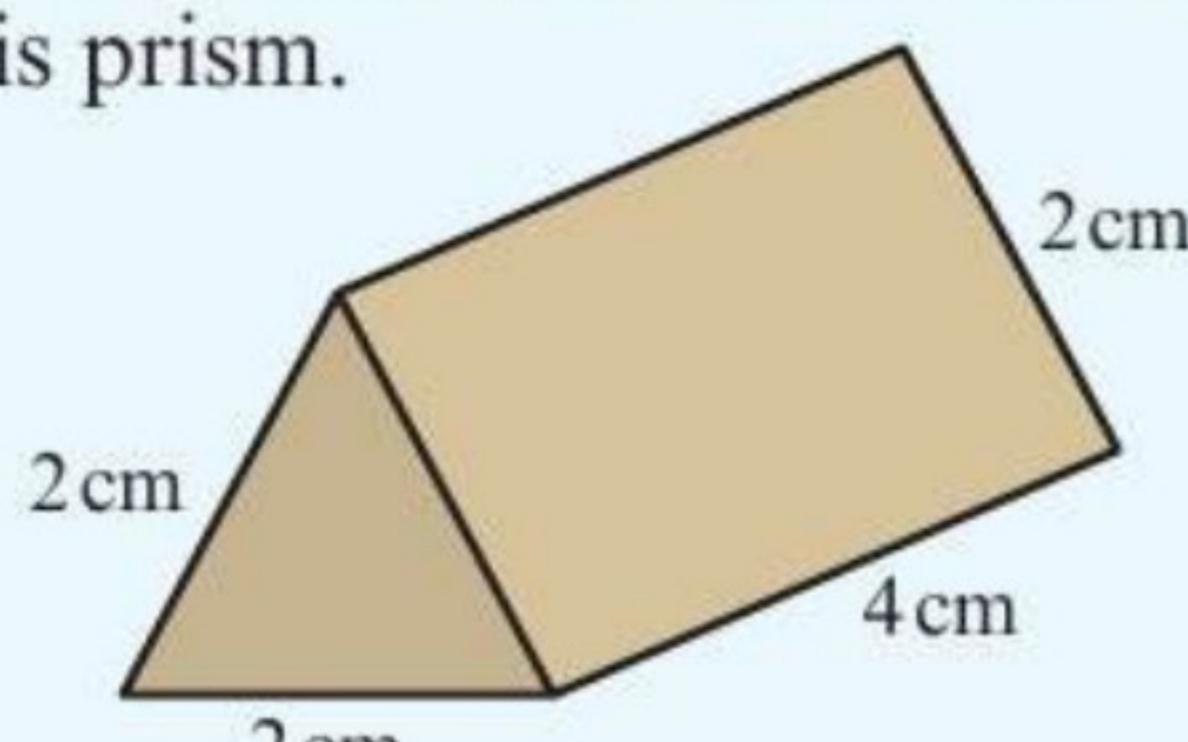
You use dotted lines to show hidden faces on a **sketch**.



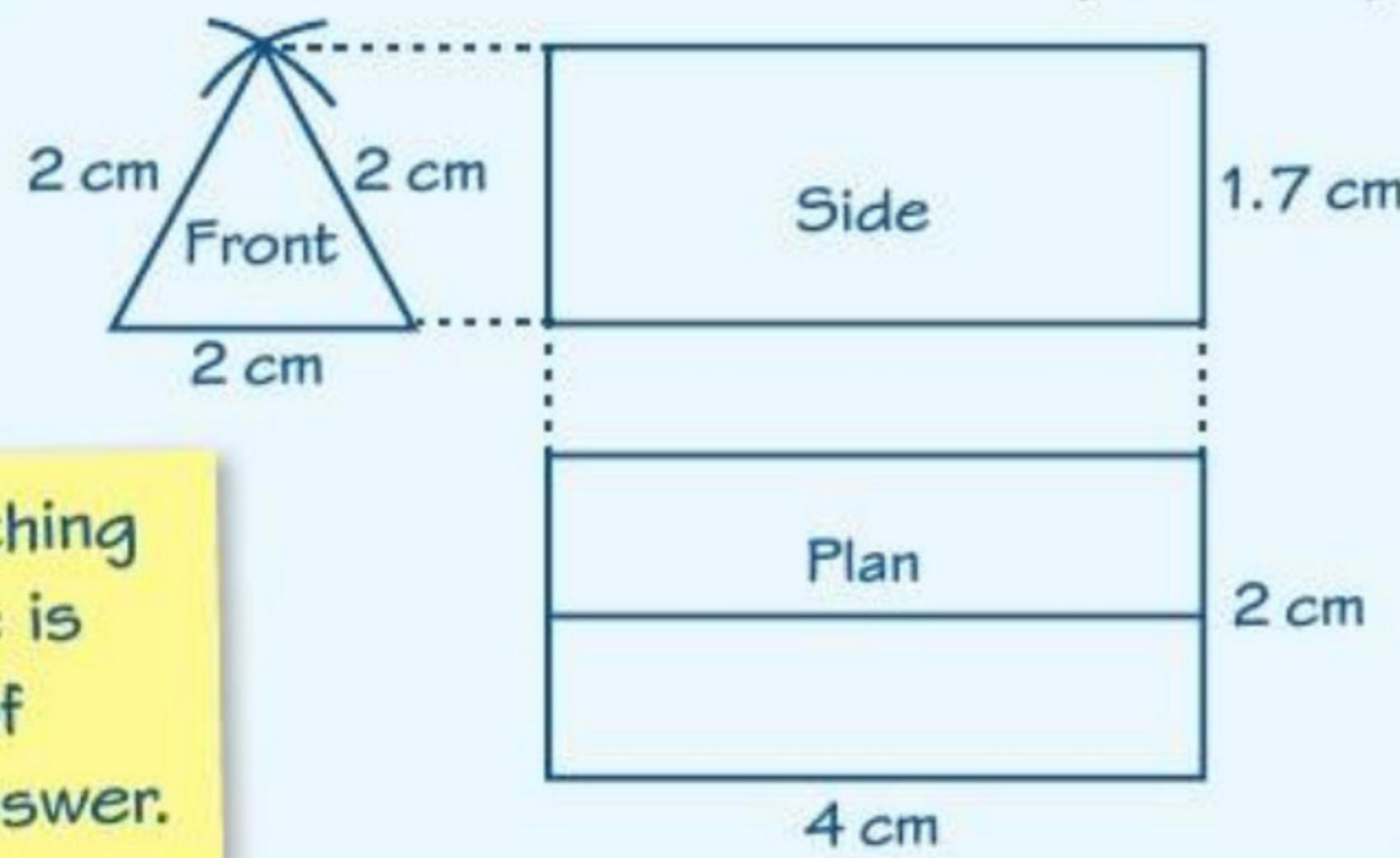
Worked example

Target grade **5**

The diagram shows a triangular prism. Accurately construct a plan and elevations for this prism.



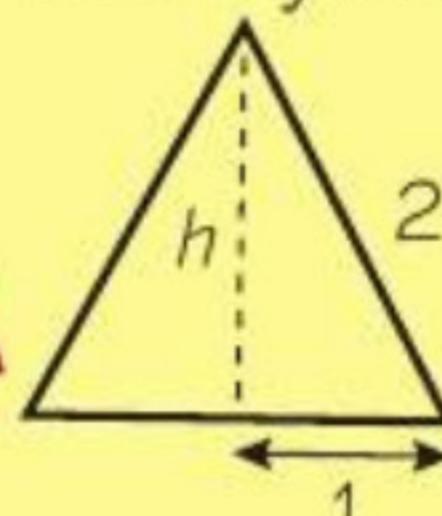
Front



Everything in blue is part of the answer.

(4 marks)

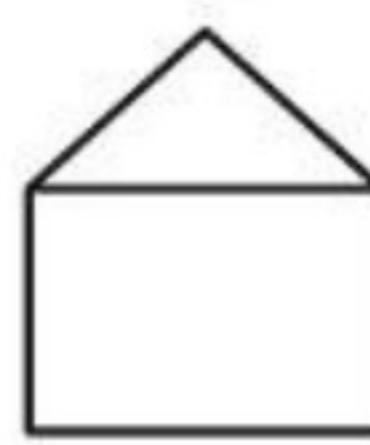
'Construct' means draw accurately using a pencil, ruler, compasses and protractor. Don't rub out any construction lines. Be careful with the side elevation. You could use Pythagoras to work out the height.



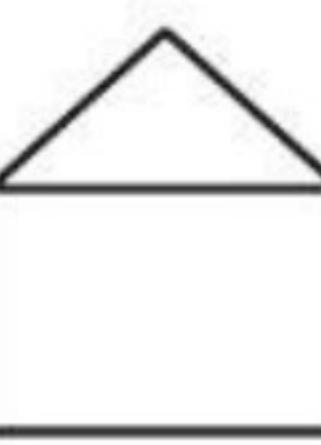
$$h^2 = \sqrt{2^2 - 1^2} = 1.7 \text{ (1 d.p.)}$$

Now try this

Here are the plan and elevations of a 3-D shape.



Front elevation



Side elevation



Plan

For this 3-D shape write down the number of

(a) faces

(1 mark)

(b) edges

(1 mark)

(c) vertices.

(1 mark)

Sketch the 3D shape.