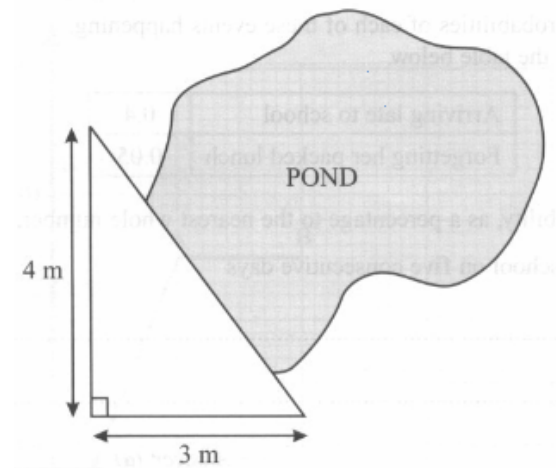


Sara wants to build some decking over the edge of a garden pond, as shown in the diagram.

She measures two perpendicular sides of a right-angled triangle to be 3 metres and 4 metres to the nearest 0.1 metre.



She wants to work out the area of the decking.

Calculate the maximum and minimum area of the decking.

Answers max: _____ m^2 min: _____ m^2 [4]

The diagram shows a cone.

The diameter, d , of the bottom surface of the cone was measured as 72.2 cm, correct to 1 decimal place.

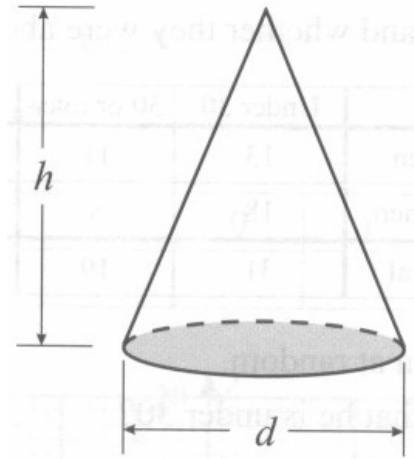
The volume, V , of the cone was found to be 0.33 m^3 to the nearest 0.01 m^3 .

The formula for the height of a cone is

$$h = \frac{12V}{\pi d^2}$$

Calculate the maximum possible height, h , of the cone.

Give your answer in cm.



Answer _____ [4]

Juan measures the height of his desk. He says it is 85 cm tall, correct to the nearest cm.

What is the minimum possible height of the desk?



Answer _____ [1]

Juan now measures his sister's height. He says that she is 130 cm tall, correct to the nearest 2 cm.

What is his sister's maximum possible height?

Answer _____ [1]

Tanya weighs a pot of yoghurt. She says that the weight is 110 g correct to the nearest 10 g.

What is the minimum possible weight of the yoghurt?



Answer _____ [1]

Tanya says that a slab of butter weighs 265 g to the nearest 5 g.

What is the maximum possible weight of the butter?



Answer _____ [2]

The diameter of a digestive biscuit is measured as 69.0 ± 1.5 mm.

The thickness of the biscuit is measured as 7.9 ± 0.5 mm.

376 digestive biscuits are laid end-to-end in a straight line.



(a) Calculate the minimum length of the line of biscuits, giving your answer in metres.

Answer _____ [3]

(b) Calculate the maximum possible volume of one biscuit, in mm^3 .

Answer _____ [3]

The times in a go-karting race are recorded to the nearest hundredth of a second.

The fastest lap was achieved by Ivor Fastcar who completed a lap in 86.27 seconds.



Give the upper and lower bounds of the possible times.

upper bound _____ lower bound _____ [2]

I want to paint my room green.

A tin of green paint covers 10 m^2 , to the nearest 2 m^2 .

The surface area I want to paint in my room is 55 m^2 , correct to the nearest 5 m^2 .

What is the maximum number of tins of green paint I will need to buy to paint my room?



Answer _____ [4]