

N4 Applications of Maths - Geometry and Measure Practice Assessment 1

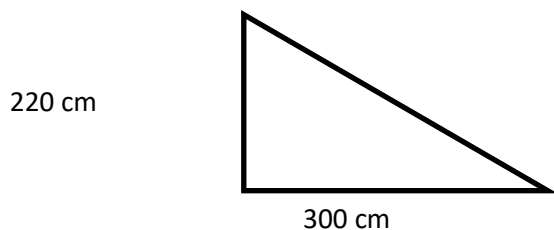
1. Temperatures can be measured either in Degrees Celsius (C) or in Degrees Fahrenheit (F). The formula for changing Celsius to Fahrenheit is $F = 1.8C + 32$.

a. What would 30°C be in Fahrenheit?

b. On a particular summer day in Spain the temperature was recorded as 18°C at 1000. By 16:45 this had changed to 27°C . How long did it take for the sun to get to this temperature?

c. Work out what this would be in Fahrenheit.

2. Regulations state that the gradient of a slide in a children's play park must not exceed 0.75 for safety reasons.



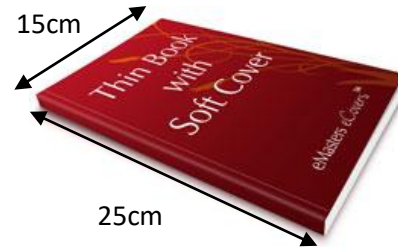
i. Does the ramp meet the regulation above? Give a reason for your answer.

ii. Calculate the length of the slide in the diagram, correct to two decimal places.

3. Mr Lynch bought Mrs Page a new book shelf for the school library to hold her new past papers books. The dimensions of the bookcase are as follows:



Each past paper book measures 25cm by 15cm and its spine is 1cm.



Mrs Page is unsure whether to stack the books horizontally or vertically.



Horizontally



Vertically

Calculate the maximum number of books Mrs Page will be able to put in the bookcase if she

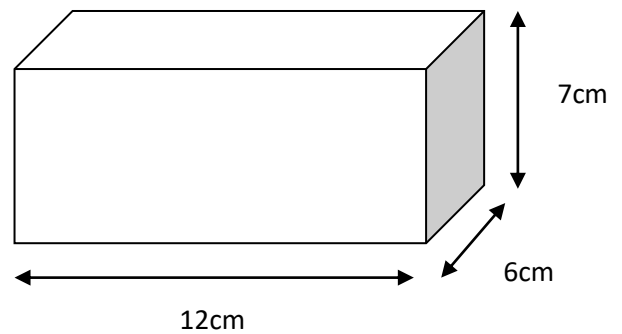
- stacks them vertically
- stacks them horizontally
- Using these calculations, explain to Mrs Page the best way for her to stack the past papers to ensure she can maximise the number of past papers on display.

4. The tolerance level for packets of Smarties is 35 ± 3 . Which of the following boxes produced by the factory will be out with this limit?

36, 42, 34, 40, 32, 34, 31, 39, 36, 33, 45, 34, 37, 36, 32

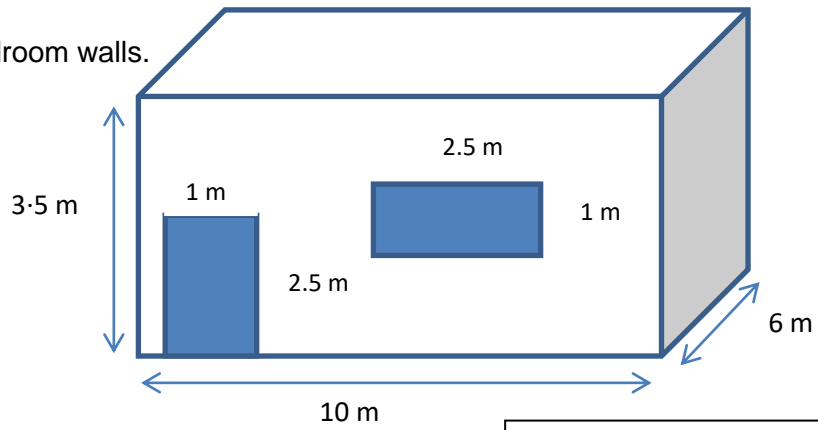
5. Mr Venetto pours ice cream ready to be frozen into tubs. The tubs are rectangular and have the following dimensions:

- a. Mr Venetto has made 8 litres of ice cream.
How many tubs can he fill from this?
($1000 \text{ cm}^3 = 1 \text{ litre}$)



- b. If he decides to double the volume of his ice cream tubs. How many tubs would he be able to make from the 8 litres?

6. Joe plans to paint his bedroom walls.



Paint: 1 litre tin covers 12 m^2

- Calculate the total area of walls which require painting?
- What volume of paint must Joe buy to cover all the walls?
- How many tins will he need to buy?
- Paint is sold in 1 litre tubs which cost £7.75. How much will it cost to decorate his room?
- Joe wants to put a border around the room (excluding the window and door). What length of boarder will he require?

7. As a way of trying to increase public use of a park, a local running group set up a weekly running route for anyone interested. This takes place every Saturday morning.



The route is as follows:

- From the park entrance run 800m on a bearing of 070° to the boating pond
- 3000m on a bearing of 130° to the castle.
- From there runners should continue for 450 m on a bearing of 250° to the play park.
- From the play park they should run directly back to the park entrance.

- a. Make a scale drawing of their walk using the scale 1 cm = 200 m.

- b. How far is the run from the play park back to the park entrance?