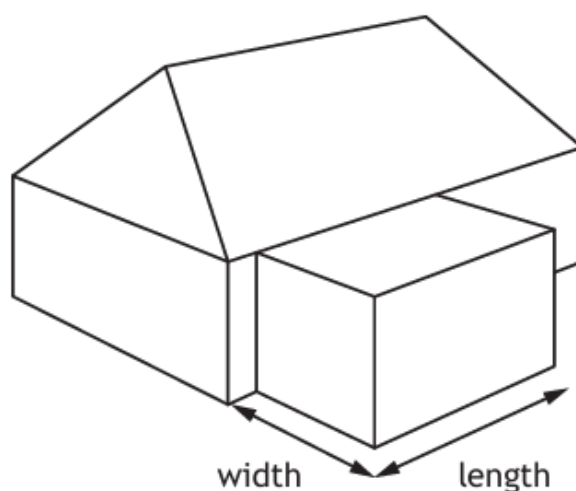
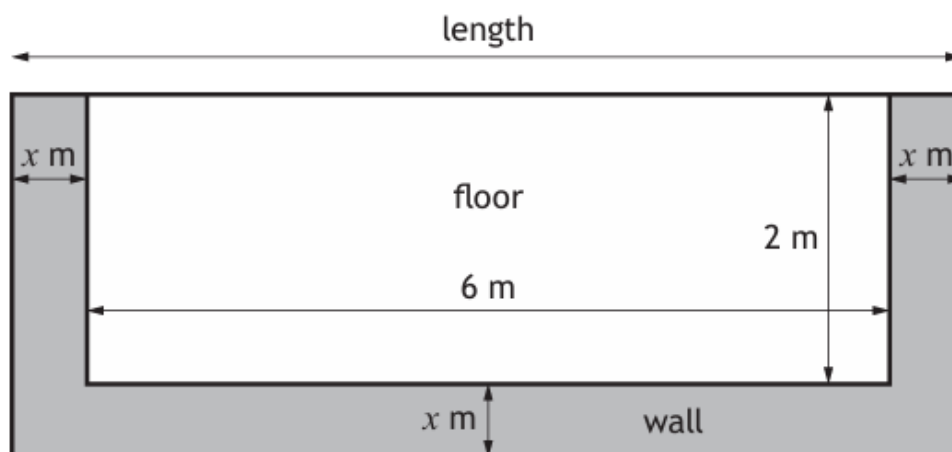


National 5 Maths
QS 2026 Paper 2
Question 13

An extension with a rectangular base is being added to the rear of a house.



The diagram below shows a plan of the rectangular base of the extension.



The length of the floor is 6 metres and the width of the floor is 2 metres.

There is a wall x metres thick on three sides of the extension.

(a) Write down an expression for the length of the extension in terms of x .

1

[continued on next page...]

The total area of the rectangular base of the extension is 17 square metres.

(b) Show that $2x^2 + 10x - 5 = 0$. 2

(c) Calculate x , the thickness of the wall.

Give your answer correct to two decimal places. 4

Answers:

(a) $2x + 6$

(b) Write down a similar expression for the breadth of the extension.
Use $\text{area} = \text{length} \times \text{breadth}$.
Rearrange into the required form.

(c) 0.46 metres (disregarding the negative solution).