1 The diagram shows one face of a wall.
   This face is in the shape of a pentagon with exactly one line of symmetry.
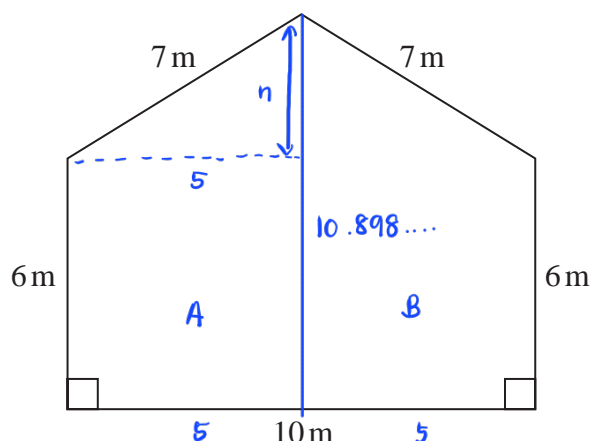
7 m   7 m   Diagram **NOT** accurately drawn

n

5
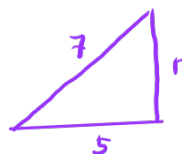
10.898....

6 m   6 m

A   B

5   10 m   5

Omondi is going to paint this face of the wall once.
He has to buy all the paint that he needs to use.

The paint in each tin of paint Omondi is going to buy will cover $16\,m^2$ of the face of the wall.

Work out the least number of tins of paint Omondi will need to buy.
Show your working clearly.

By using Pythagoras' Theorem, finding n :

7   n

5

$$n = \sqrt{7^2 - 5^2}$$

$$= \sqrt{24} \quad ①$$

$$= 4.898..... ①$$

Area of trapezium A and B :

2 trapeziums

$$\frac{1}{2} \times (6 + 10.898...) \times (5) \times 2$$

$$= 84.494.. \; m^2 \; ①$$

$\dfrac{84.494...}{16}$ $= 5.28$ ① 5 tins of paint is not enough to cover the whole wall

∴ Omondi needs 6 tins of paint.

①

6

(Total for Question 1 is 5 marks)