

# M6 = 8 days to go!

9 Sean is making plans to build a shed with a rectangular floor.

The floor has length 4 m and width 3 m.  
He thinks the area of the floor is too small.  
He wants to have exactly double the floor area.

He writes down 3 ideas:

- Idea 1 Add 2 m to the length and add 2 m to the width.
- Idea 2 Double the length and double the width.
- Idea 3 Double the length only.

Which idea will work?

**Explain your answer.**

Idea \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [4]

The equation  $x^3 + 3x = 32$

has a solution between 2 and 3.

Use trial and improvement to find this solution.  
Give your answer to one decimal place.

$x = \dots\dots\dots$   
(4)

15 The cost of a ticket for a disco is worked out using this formula.

$$C = \frac{F + B + H}{N} + D \quad \text{where}$$

$C$  = cost of ticket (£)

$F$  = total cost of food (£)

$B$  = cost of band (£)

$H$  = hall hire charge (£)

$N$  = number expected to attend

$D$  = donation to charity (£)

Given that  $F = \text{£}155$ ,  $B = \text{£}240$ ,  $H = \text{£}85$ ,  $N = 120$  and  $D = \text{£}1$ ,

work out the cost of a ticket for the disco.

Answer £ \_\_\_\_\_ [2]

16 Mark writes out the first five terms of the sequence with one  $n$ th term rule

$$5n - 3$$

as 2, 7, 12, 18, 22

Is he correct?

**Explain your answer.**

Answer \_\_\_\_\_ because \_\_\_\_\_ [2]