M6 -8 days to go!

Idea 1. 6m

5m | 6×5 = 30

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

4×3 = 12

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.

= must get 24

He writes down 3 ideas:

Idea 1 Add 2 m to the length and add 2 m to the width. wrong 30 m²
Idea 2 Double the length and double the width.
Idea 3 Double the length only.

Idea 2

8m

Which idea will work? Idea 3 8m

Explain your answer. 3m | 8×3 = 24

6m | 8×6 = 48

Idea _____

Idea 3 works (see the pictures ↑↑↑)

_____

_____

_____ [4]

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

has a solution between 2 and 3.

Guess & Check

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

x	$x^3 + 3x = 32$	TB or TS
2	$2^3 + 3\times2 = 14$	Too Small
2.4	$2.4^3 + 3\times2.4 = 21.024$	Too Small
2.6	$2.6^3 + 3\times2.6 = 25.376$	Too Small
2.8	$2.8^3 + 3\times2.8 = 30.352$	Too Small
2.9	$2.9^3 + 3\times2.9 = 33.089$	Too Big
2.85	$2.85^3 + 3\times2.85 = 31.699$	Too Small

x = 2.9 (4)

Too Small (2.8) Too Small (2.85) Too Big (2.9)

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 $F = £155$, $B = £240$, $H = £85$, $N = 120$ and $D = £1$,

work out the cost of a ticket for the disco.

$C = \frac{155 + 240 + 85}{120} + 1$

$C = \frac{480}{120} + 1$

$C = 4 + 1$

$C = 5$

Answer £ 5 [2]

16 Mark writes out the first five terms of the sequence with one nth term rule

$5n - 3$

as 2, 7, 12, 18, 22

Is he correct?

Explain your answer.

2, 7, 12, 18, 22
5 5 6 4

5n-3

1st	2nd	3rd	4th	5th
2	7	12	17	22

No.

Answer No because should be 2, 7, 12, 17, 22 [2]