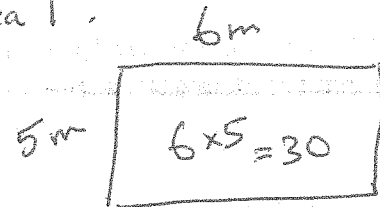


M6 = 8 days to go!

Idea 1.



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

$$4 \times 3 = 12$$

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.

He writes down 3 ideas: must get 24

Idea 1 Add 2 m to the length and add 2 m to the width. *wrong* 30 m^2

Idea 2 Double the length and double the width.

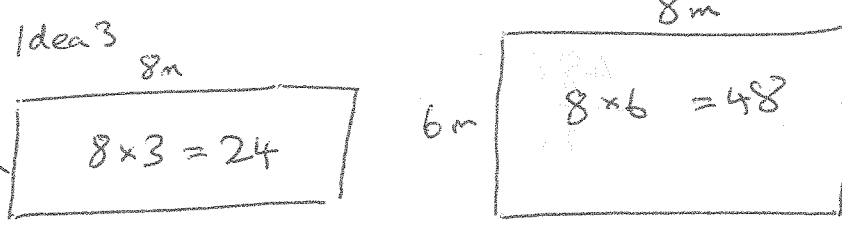
Idea 3 Double the length only.

Which idea will work? *Idea 3*

Explain your answer.

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	$2^3 + 3 \times 2 = 14$	Too Small
2.4	$2.4^3 + 3 \times 2.4 = 21.024$	Too Small
2.6	$2.6^3 + 3 \times 2.6 = 25.376$	Too Small
2.8	$2.8^3 + 3 \times 2.8 = 30.352$	Too Small
2.9	$2.9^3 + 3 \times 2.9 = 33.087$	Too Big
2.85	$2.85^3 + 3 \times 2.85 = 31.699$	Too Small

$x = \dots\dots\dots 2.9$

2.8 2.85 ✓ 2.9 (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 $F = £155$, $B = £240$, $H = £85$, $N = 120$ 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]

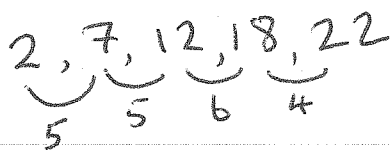
16 Mark writes out the first five terms of the sequence with one n th term rule

$$5n - 3$$

as 2, 7, 12, 18, 22

Is he correct?

Explain your answer.

2, 7, 12, 18, 22


$5n - 3$

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

No.

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