

Revision C F4 (End of Year Exam) [30]

1.

White paint costs £2.80 per litre.

Blue paint costs £3.50 per litre.

White paint and blue paint are mixed in the ratio 3 : 2

Work out the cost of 18 litres of the mixture.

[4 marks]

2.

Ian and Simon play each other in a darts match.

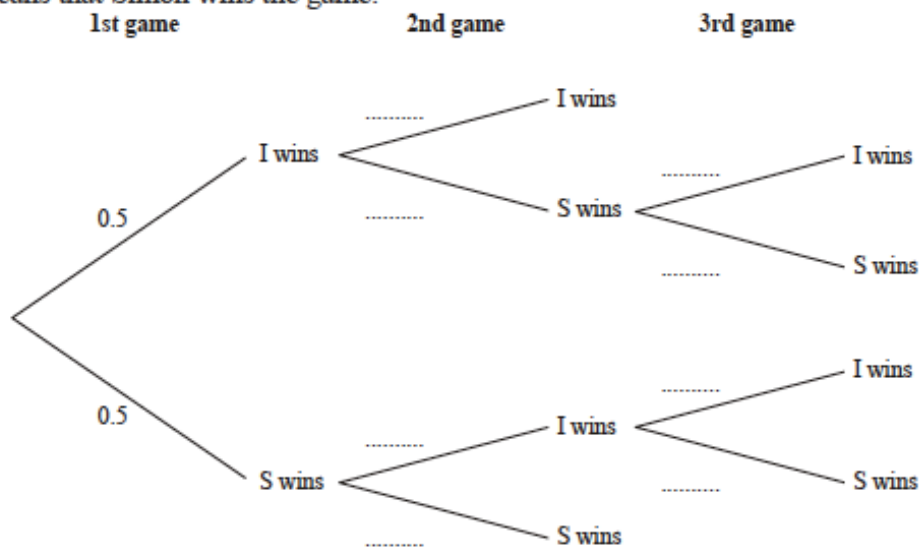
The match consists of three games.

The winner of the match is the first player to win two games.

The tree diagram shows all the possible outcomes.

'I wins' means that Ian wins the game.

'S wins' means that Simon wins the game.



The probability that Ian wins the first game is 0.5

Whenever Ian wins a game the probability that he wins the next game is 0.7

Whenever Simon wins a game the probability that he wins the next game is 0.6

(a) Copy and complete the tree diagram.

(2)

(b) Calculate the probability that Ian wins the darts match.

(4)

(Total 6 marks)

3.

(a) The n th term of a sequence is $4n + 1$

(i) Write down the first three terms of the sequence.

(2)

(ii) Is 122 a term in this sequence?
Explain your answer.

(1)

(b) Tom builds fencing from pieces of wood as shown below.

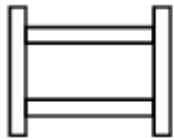


Diagram 1
4 pieces of wood

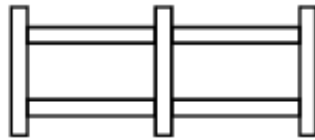


Diagram 2
7 pieces of wood

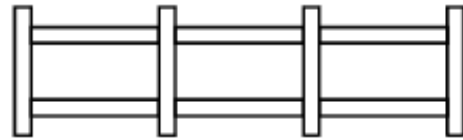


Diagram 3
10 pieces of wood

How many of pieces of wood will be in Diagram n ?

(2)

(Total 5 marks)

4.

A company makes boxes of cereal.

A box usually contains 450 grams of cereal.

Here are two options for a special offer.

<p>Option A</p> <p>20% more cereal</p> <p>Price remains the same</p>

<p>Option B</p> <p>Usual amount of cereal</p> <p>15% off the price</p>

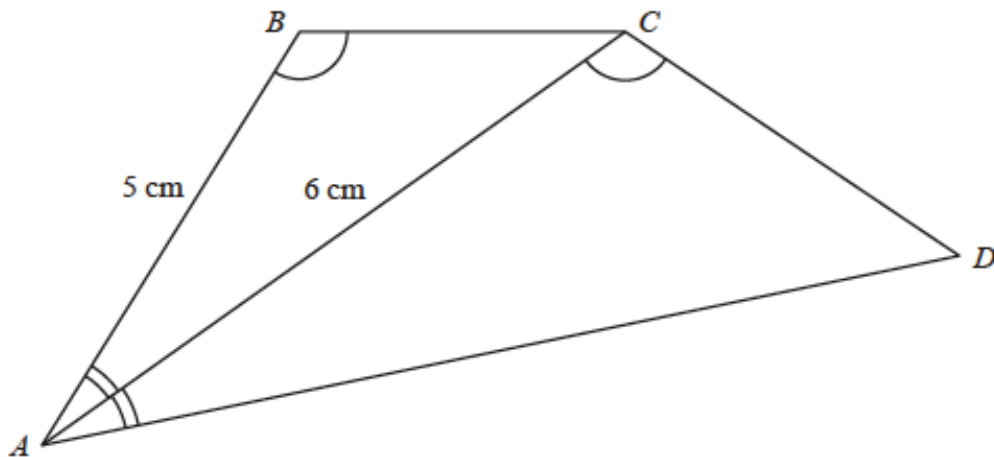
Which option is the better value for the customer?

You **must** show your working.

[3 marks]

5.

Triangles ABC and ACD are similar.
 $AB = 5$ cm and $AC = 6$ cm.



Not drawn accurately

Calculate the length of AD .

(Total 3 marks)

6.

Non-calculator

Adam made 50 biscuits on Monday.
On Tuesday he made 40% more biscuits than he made on Monday.
On Wednesday he made 20% fewer biscuits than he made on Tuesday.

Find and describe the percentage change between the number of biscuits Adam made on Monday and the number of biscuits he made on Wednesday.

(Total 5 marks)

7. **Non-calculator**

John has an empty box.
He puts some red counters and some blue counters into the box.

The ratio of the number of red counters to the number of blue counters is 1 : 4

Linda takes at random 2 counters from the box.

The probability that she takes 2 red counters is $\frac{6}{155}$

How many red counters did John put into the box?

(Total 4 marks)