

Write your name here

Surname

Other names

In the style of:

**Edexcel GCSE**

Centre Number

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Candidate Number

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# Mathematics A

## Probability Tree

**Higher Tier**

Past Paper Style Questions  
Arranged by Topic

Paper Reference

**1MA0/1H**

**You must have:** Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

Total Marks



### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- **Calculators must not be used.**

### Information

- The total mark for this paper is 100
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed.

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►



## IMPORTANT FORMULAE

1. David goes to a club.  
He has one go at Darts. He has one go at Pool.

The probability that he wins at Darts is 0.3  
The probability that he wins at Pool is 0.4

- (a) Complete the probability tree diagram.

For mutually exclusive events, A & B,  $P(A \text{ or } B) = P(A) + P(B)$

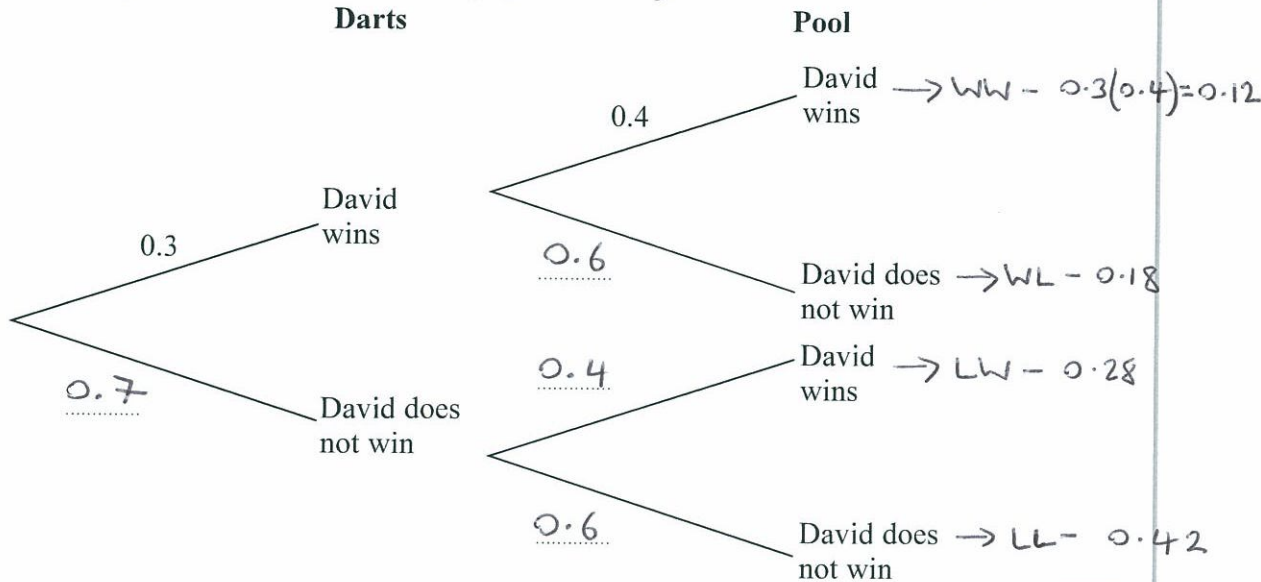
$$P(E) = \frac{n(E)}{n(S)}$$

Probability of event  $\rightarrow$  No. of ways to select event  
 $n(E)$   $\rightarrow$  Total no. of outcomes possible

For independent events A and B,

$$P(A \text{ and } B) = P(A) \times P(B)$$

$$P(A \text{ or } B) = P(A) + P(B)$$



(2)  $\Sigma: 1$

- (b) Work out the probability that David wins at Darts and also wins at Pool.

$$P(WW) = P(W) \times P(W) = 0.3 \times 0.4 = 0.12$$

(2)

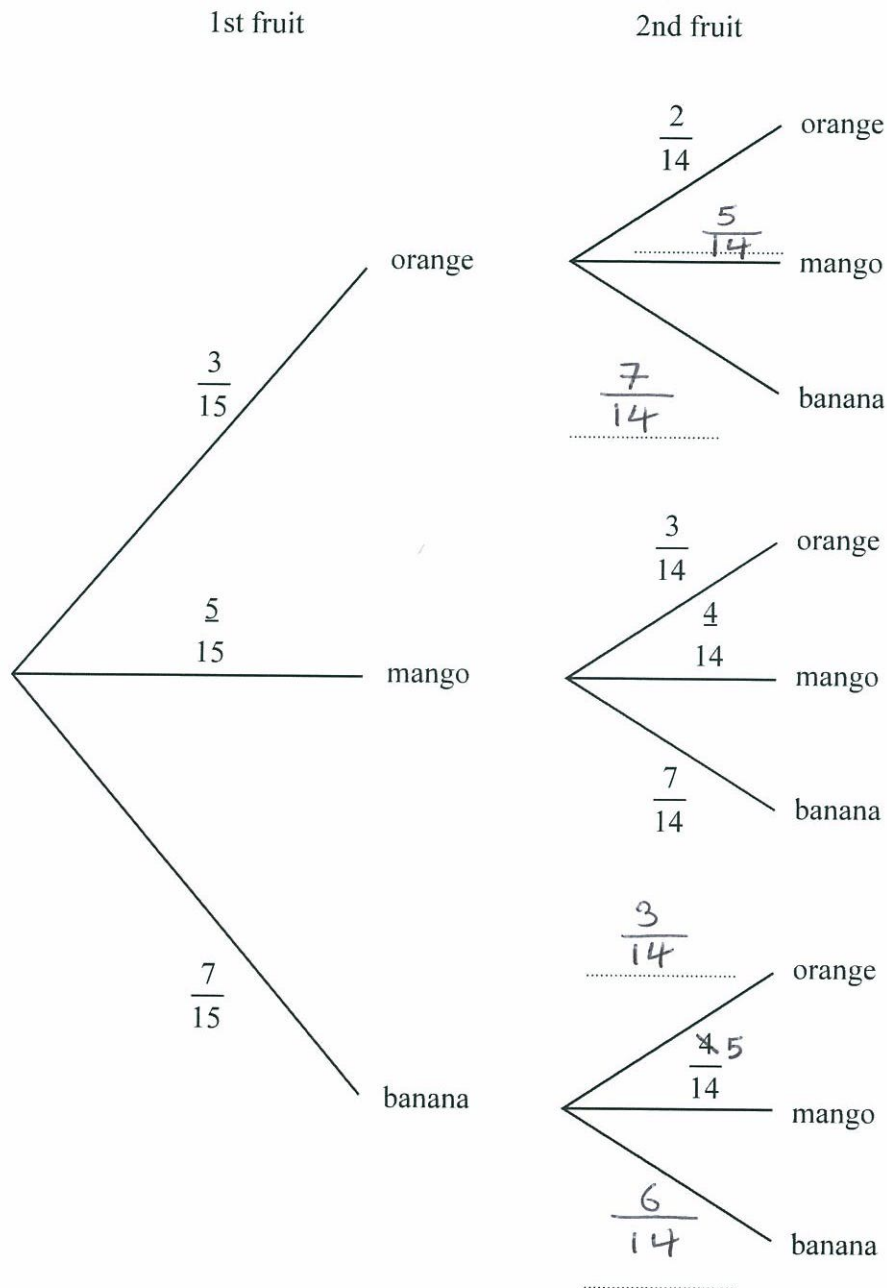
Total for Question 1 is 4 marks)



2. A bowl contains 3 oranges, 5 mangoes and 7 bananas.

One fruit is taken, at random, from the bowl and **not** replaced. Another fruit is then taken, at random, from the bowl.

A tree diagram representing these two events is shown below.



(a) Complete the tree diagram representing these two events.

(2)

(b) Find the probability that both fruit are bananas. Give your answer as a simplified fraction.

$$P(BB) = \frac{7}{15} \left( \frac{6}{14} \right) = \frac{42}{210} = \frac{21}{105} = \frac{7}{35} = \frac{1}{5} \quad (2)$$



