Frequency Trees (F)

A collection of 9-1 Maths GCSE Sample and Specimen questions from AQA, OCR, Pearson-Edexcel and WJEC Eduqas.

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Total Marks:	

1. 100 students had some homework.

   42 of these students are boys. ✓

   8 of the 100 students did not do their homework. ✓

   53 of the girls did do their homework. ✓

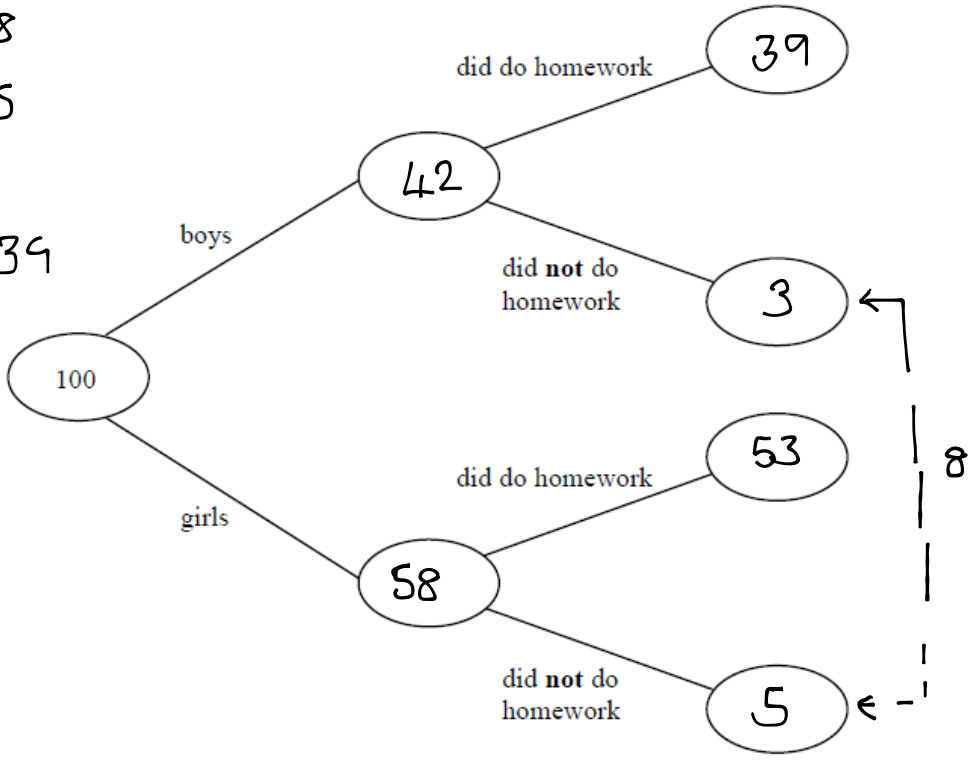
(a) Use this information to complete the frequency tree.

100 - 42 = 58

58 - 53 = 5

8 - 5 = 3

42 - 3 = 39



[3]

One of the girls is chosen at random.

(b) Work out the probability that this girl did not do her homework.

$\frac{5}{58}$

[2]

2. 50 people took a test.

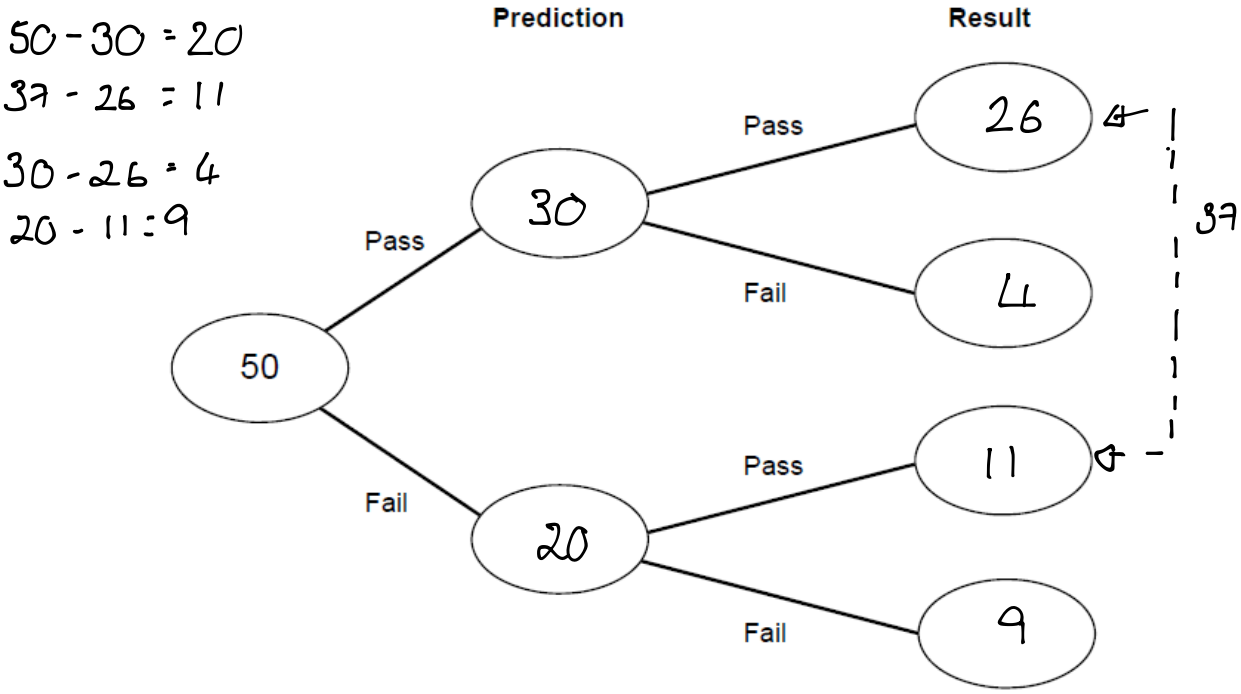
Before the test, they predicted whether they would pass or fail.

30 people predicted they would pass.

26 of the people who predicted they would pass did pass.

37 people passed altogether.

Complete the frequency tree.

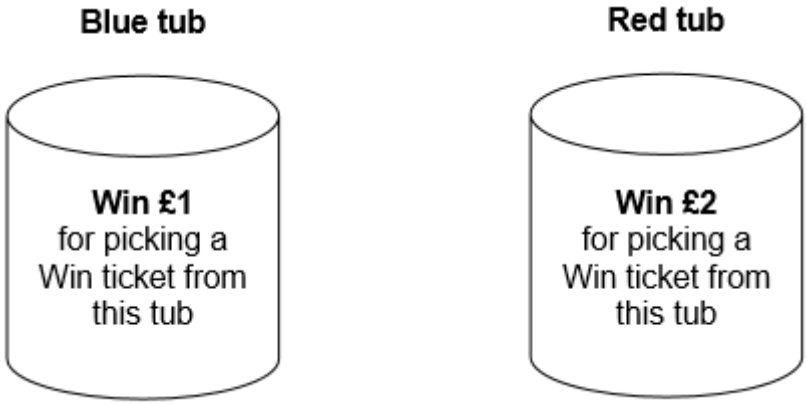


[2]

3. Jack makes a game for a school fair.

Players can win money by picking a 'Win' ticket from a tub.

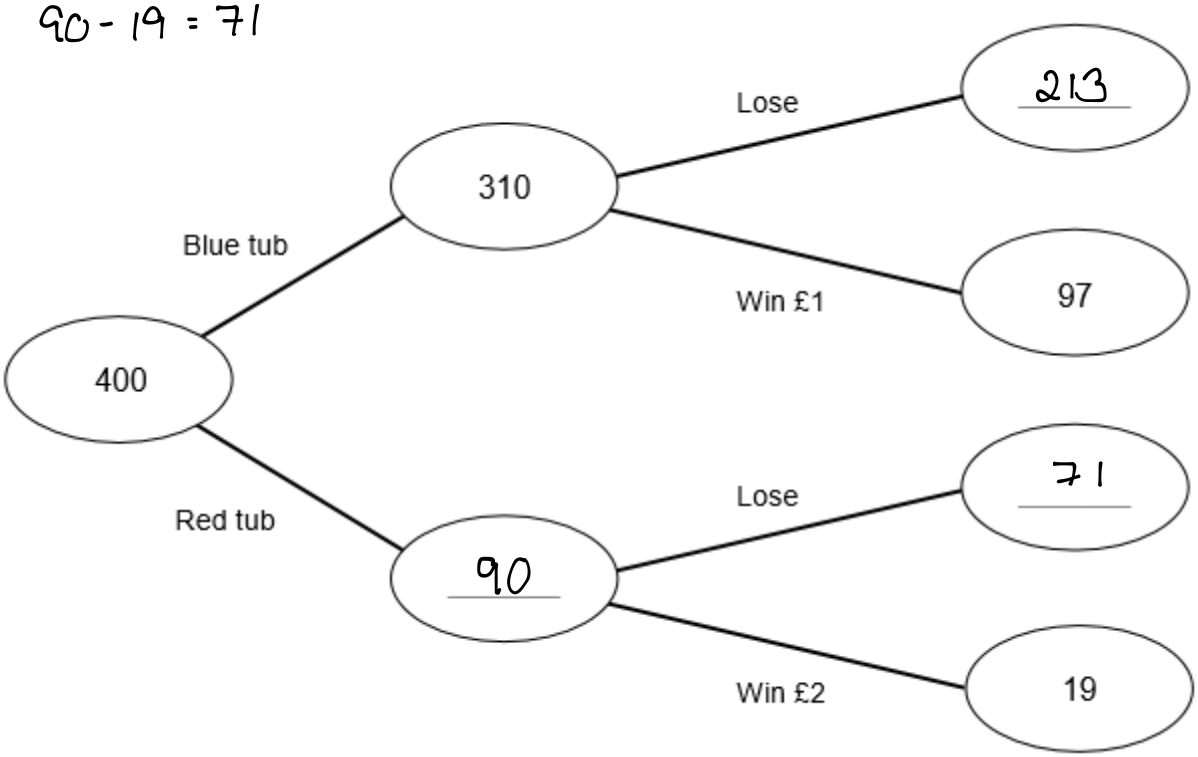
A player chooses a tub by picking a blue disc or a red disc out of a bag.



400 people play the game at the fair.

The frequency tree shows some of the outcomes.

400 - 310 = 90
310 - 97 = 213
90 - 19 = 71



a) Complete the frequency tree.

[2]

b) A player has one go at Jack's game.

Use the frequency tree to estimate the probability that the player wins some money.

$\frac{97}{400} + \frac{19}{400} = \frac{116}{400}$

[2]

c) Jack makes a profit of £25 from his game.

Work out how much Jack charges players to have a go at his game.

97 x £1 + 19 x £2
97 + 38 = £135 in winnings

97
38
135

+ £25 profit = £160

£160 ÷ 400 = 40p

[3]

CREDITS AND NOTES

Question	Awarding Body
1	Pearson Edexcel
2	AQA
3	AQA

Notes:

These questions have been retyped from the original sample/specimen assessment materials and whilst every effort has been made to ensure there are no errors, any that do appear are mine and not the exam board s (similarly any errors I have corrected from the originals are also my corrections and not theirs!).

Please also note that the layout in terms of fonts, answer lines and space given to each question does not reflect the actual papers to save space.

These questions have been collated by me as the basis for a GCSE working party set up by the GLOW maths hub - if you want to get involved please get in touch. The objective is to provide support to fellow teachers and to give you a flavour of how different topics "could" be examined. They should not be used to form a decision as to which board to use. There is no guarantee that a topic will or won't appear in the "live" papers from a specific exam board or that examination of a topic will be as shown in these questions.

Links:

AQA http://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300

OCR http://ocr.org.uk/gcsemaths

Pearson Edexcel http://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html

WJEC Eduqas http://www.eduqas.co.uk/qualifications/mathematics/gcse/

Contents:

This version contains questions from:

AQA – Sample Assessment Material, Practice set 2 and Practice set 1

OCR – Sample Assessment Material and Practice set 1

Pearson Edexcel – Sample Assessment Material, Specimen set 1 and Specimen set 2

WJEC Eduqas – Sample Assessment Material