Combinations (F)

Name:	
Total Marks:	

1. Three friends, Ann (A), Bob (B) and Carol (C), go on holiday together.

   They book a row of three seats on the plane.

   When they arrive at the plane they sit in a random order.

   List all the different orders they could sit on the three seats.

   The first one has been done for you.

Seat 1	Seat 2	Seat 3
A	B	C
A	C	B
B	A	C
B	C	A
C	A	B
C	B	A

[2]

2. A game is played by rolling a fair ordinary dice and throwing a fair coin.

(a) List all the possible outcomes.

Dice	Coin
1	H
2	H
3	H
4	H
5	H
6	H
1	T
2	T
3	T
4	T
5	T
6	T

[2]

(b) Natalie wins if she gets an even number and a head.

What is the probability she wins?

$\dfrac{3}{12}$

(b) .... [1]

3. Sally has three tiles.

| 1 | 2 | 3 |
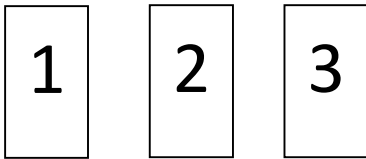
Each tile has a different number on it.

Sally puts the three tiles down to make a number.

Each number is made with all three tiles.

How many different numbers can Sally make?

$3 \times 2 \times 1$

$= 6$

[2]

4. In a box there are three types of chocolates.

There are 6 plain chocolates,

8 milk chocolates

and 10 white chocolates.

Deon takes 2 chocolates from the box.

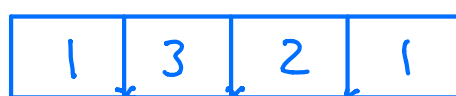(b) Write down all the possible combinations of types of chocolates that Deon can take.

PP   PM   PW   MM   MW   WW
....
....
.... [2]

5. Beth uses these four cards to make 4-digit numbers.

| 2 | 4 | 5 | 8 |

How many different 4-digit numbers can she make that are greater than 8000?

[2]

| 1 | 3 | 2 | 1 |

$= 6$

CREDITS AND NOTES

Question	Awarding Body
1	OCR
2	OCR
3	Pearson Edexcel
4	Pearson Edexcel
5	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 1 and Practice set 2

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