Questions

Q1.

Jeff is choosing a shrub and a rose tree for his garden.
At the garden centre there are 17 different types of shrubs and some rose trees.

Jeff says,

"There are 215 different ways to choose one shrub and one rose tree."

Could Jeff be correct?
You must show how you get your answer.

(Total for question = 2 marks)

(**Q11 1MA1/3H, June 2017**)

Q2.

Tracey is going to choose a main course and a dessert in a cafe.
She can choose from 8 main courses and 7 desserts.

Tracey says that to work out the number of different ways of choosing a main course and a dessert you add 8 and 7

(a) Is Tracey correct?

You must give a reason for your answer.

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(1)

12 teams play in a competition.
Each team plays each other team exactly once.

(b) Work out the total number of games played.

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(2)

(Total for question = 3 marks)

(**Q15 1MA1/2H, Nov 2017**)

Q3.

Mohsin, Yusuf and Luke are going to play a game.
At the end of the game, one of them will be in First place, one of them will be in Second place and one of them will be in Third place.

Use the table below to list all the possible outcomes of the game.

First place	Second place	Third place

(Total for question = 2 marks)

(**Q07 1MA1/2F, June 2018**)

Q4.

In a restaurant there are

9 starter dishes
15 main dishes
8 dessert dishes

Janet is going to choose one of the following combinations for her meal.

a starter dish and a main dish
or a main dish and a dessert dish
or a starter dish, a main dish and a dessert dish

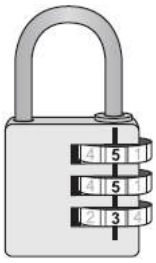
Show that there are 1335 different ways to choose the meal.

(Total for question = 3 marks)

(**Q11 1MA1/2H, Nov 2018**)

Q5.

There are three dials on a combination lock.
Each dial can be set to one of the numbers 1, 2, 3, 4, 5
The three digit number 553 is one way the dials can be set, as shown in the diagram.



(a) Work out the number of different three digit numbers that can be set for the combination lock.

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(2)

(b) How many of the possible three digit numbers have three different digits?

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(2)

(Total for question = 4 marks)

(**Q16 1MA1/1H, June 2019**)

Q6.

Sadia is going to buy a new car.
For the car, she can choose one body colour, one roof colour and one wheel type.

She can choose from

19 different body colours
25 different wheel types

The total number of ways Sadia can choose the body colour and the roof colour and the wheel type is 3325

Work out the number of different roof colours that Sadia can choose from.

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(Total for question = 2 marks)

(**Q14 1MA1/2H, Nov 2019**)

Q7.

Jack is in a restaurant.
There are 5 starters, 8 main courses and some desserts on the menu.

Jack is going to choose one starter, one main course and one dessert.
He says there are 240 ways that he can choose his starter, his main course and his dessert.

Could Jack be correct?
You must show how you get your answer.

(Total for question = 2 marks)

(**Q11 1MA1/2H, Nov 2020**)

Q8.

Rayheem has

16 shirts
5 pairs of jeans
3 jackets

Rayheem chooses an outfit to wear.
An outfit is 1 shirt, 1 pair of jeans and 1 jacket.

Work out how many different outfits Rayheem can choose.

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(Total for question = 2 marks)

(**Q11 1MA1/3H, June 2022**)

Q9.

The menu in a restaurant has starters, main courses and desserts.

There are 5 starters.
There are 12 main courses.
There are x desserts.

There are 420 different ways to choose one starter, one main course and one dessert.

Work out the value of x.

x = ...

(Total for question = 2 marks)

(**Q19 1MA1/1H, June 2023**)

Q10.

Harris is buying a shirt and a tie.
He has a choice of three colours of shirt and a choice of three styles of tie.

Shirt	Tie
White (W)	Plain (P)
Blue (B)	Striped (S)
Grey (G)	Checked (C)

Harris is going to choose one shirt and one tie.

List all the possible combinations Harris can choose.

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(Total for question = 2 marks)

(**Q09 1MA1/2F, Nov 2023**)

Q11.

Anita throws a coin 3 times.

Each time the coin can land on heads (H) or tails (T).

List all the possible outcomes.

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(Total for question = 2 marks)

(**Q10 1MA1/2F, June 2024**)

Q12.

There are 30 students in a class.
A teacher is going to choose at random 2 of the students.

Work out the number of different pairs of students that the teacher can choose.

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(Total for question = 2 marks)

(**Q13 1MA1/3H, June 2024**)

Q13.

There are 10 football teams in a league.

Each team plays every other team 4 times.

Work out the total number of games played.

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(Total for question = 2 marks)

(**Q14 1MA1/2H, Nov 2024**)

Q14.

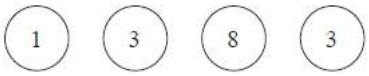
Zia has to set a 4-digit security passcode on her phone.

Each digit of the passcode is a number from 1 to 9
She can use each number more than once.

Zia tells her friend Amber that

the first digit is a cube number
the second digit is a prime number
the third digit is greater than 6
the fourth digit is an odd number.

The diagram shows one possible 4-digit passcode.



Amber is going to have one attempt at guessing Zia's passcode.

Work out the probability that Amber guesses Zia's passcode on the first attempt.

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(Total for question = 3 marks)

(**Q16 1MA1/3H, Nov 2023**)

Q15.

There are 16 hockey teams in a league.
Each team played two matches against each of the other teams.

Work out the total number of matches played.

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(Total for question = 2 marks)

(**Q14 1MA1/3H, June 2018**)

Q16.

A pet shop has

7 guppy fish
13 tetra fish
5 angel fish.

David is going to choose one of the following combinations of fish

a guppy fish and an angel fish
or a tetra fish and an angel fish
or a guppy fish, a tetra fish and an angel fish.

Show that there are 555 different ways for David to choose his fish.

(Total for question = 2 marks)

(**Q15 1MA1/3H, Nov 2022**)

Q17.

Priti is going to have a meal.
She can choose one starter and one main course from the menu.

Menu	
Starter	**Main Course**
Salad	Pasta
Fish	Rice
Melon	Burger

Write down all the possible combinations Priti can choose.

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(Total for question = 2 marks)

(**Q07 1MA1/3F, June 2017**)