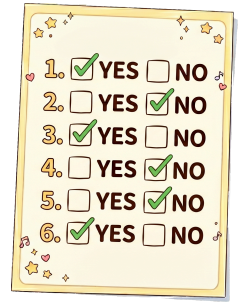


1

A quiz has **6 questions**.

Exactly **3 answers** are YES, and exactly **3 answers** are NO.

How many different answer sheets are possible?

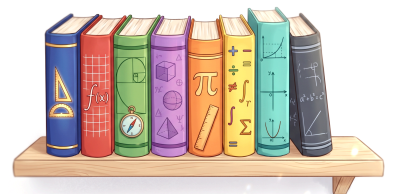


Answer:

2

Charlie has **8 fun maths books**. He must leave **3 books** at home and take the rest to his gran's house.

How many different sets of books could he take?



Answer:

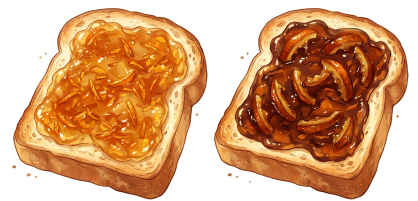
3

Paddington is busy in the kitchen!

He has **3 types of bread** and **4 types of marmalade**.

A "Paddington Special" is one slice of bread spread with one type of marmalade.

How many different toast combos can he make?



Answer:

4

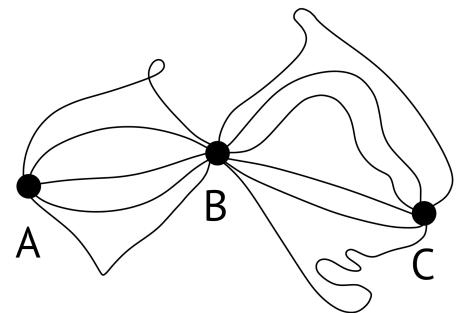
A row of **6 lanterns** is being decorated.
 Exactly **2 lanterns** will be **red**. The rest will be **green**.
 How many different rows of lanterns are possible?



Answer:

5

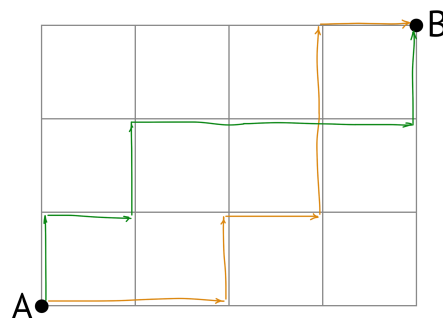
There are **5 roads** from Town A to Town B.
 There are **6 roads** from Town B to Town C.
 How many ways can you travel from Town A to Town C through Town B?



Answer:

6

An ant walks across a **3×4** grid. It starts at the bottom-left corner and finishes at the top-right corner.
 The ant takes a shortest path, moving **only right** or **up**.
 How many shortest paths are possible?



Answer:

7

A safe is locked by a **4-symbol** passcode.

Each symbol is either a Star ☆ or a Triangle △.

How many different passcodes can be made?



Answer:

8

A lock has buttons labelled 0 to 9.

It opens when exactly **3 different buttons** are pressed at the same time.

How many different lock settings are possible?



Answer:

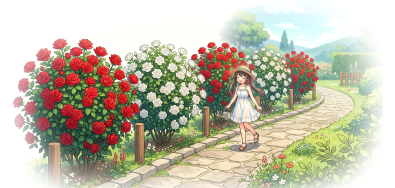
9

A gardener plants **5 rose bushes** along a path.

Each bush can be **red** or **white**.

There must be **at least one red** rose bush.

How many different rows of rose bushes can the gardener plant?



Answer:

A café is making survey cards about favourite ice-cream flavours.

There are **10 flavours** on the list.

Each child may tick **1, 2, or 3** different flavours.

How many different completed survey cards are possible?



Answer:

Answers (Pascal)

1. 20
2. 56
3. 12
4. 15
5. 30
6. 35
7. 16
8. 120
9. 31
10. 175