

PROBABILITY

Exercise 1

Choose one word for each event:

IMPOSSIBLE

UNLIKELY

LIKELY

CERTAIN

- Tomorrow will be Christmas day
- I will have pizza for dinner tonight
- It will be very hot tomorrow
- I will be in school tomorrow



- I will be in Disneyworld tonight
- It will get dark tonight
- I will be in bed by midnight tonight
- Tomorrow will be my birthday
- The grass will be purple tomorrow

Exercise 2

0 stands for **IMPOSSIBLE** and **1** for a **CERTAIN** event.

0.5 – means there is an **EQUAL** chance of an event happening.

What is the probability that:

- The grass will be blue tomorrow
- You will breathe today
- Tossing a coin will get you a tail
- Rolling a die will get you an even number
- Rolling a die will get you an odd number



Exercise 3

- 1 If a letter is chosen at random from the word **SUCCESS**, what is the probability that it will be:
a) the letter **S**? **b)** the letter **C**?
- 2 If a letter is chosen at random from the word **PEPPER**, what is the probability that it will be:
a) the letter **P**? **b)** the letter **E**?
- 3 If a letter is chosen at random from the word **GEORGE**, what is the probability that it will be:
a) the letter **E**? **b)** the letter **G**?
c) a vowel (A,E,I,O,U) **d)** a consonant (not a vowel)?

4 If a letter is chosen at random from the word PENELOPE, what is the probability that it will be:

- a) the letter E? b) the letter P?
c) a vowel? d) a consonant?



5 When a die is rolled what is the probability that the outcome is :

- a) the number 5 ? b) an even number ? c) an odd number ?

6 A game consists of spinning an arrow which is equally likely to land on 1,2,3,4,5. What is the probability it will point to :

- a) an even number? b) an odd number? c) the number 3 ?

7 There are 30 pupils in a class. 15 have blue eyes, 10 have brown eyes and 5 have green. What is the probability that a pupil will have:

- a) blue eyes b) green eyes? c) brown eyes?

8 A box contains 10 white beads and 20 black beads. If a bead is drawn what is the probability that it is :

- a) white b) black?

9 If a letter is chosen at random from the word WOODWORK, what is the probability that it will be:

- a) the letter O? b) the letter W? c) a consonant?

10 If a letter is chosen at random from the word NEEDLEWORK, what is the probability that it will be:

- a) the letter E? b) a vowel? c) a consonant?

- 11** When a card is drawn at random from a pack of 52 playing cards, what is the probability that it is:
- a) an ace? b) a heart? c) the ace of spades? d) a king, queen or jack?



- 12** There are 50 cars of the same make in a showroom. 18 are blue, 15 white, 10 green, 7 red. If it is equally likely any one of them will be sold, what is the probability that it will be:
- a) white?
b) green?
c) red or blue?
d) neither red nor blue?

Exercise 4



- 1) Five cards-10, jack, queen, king, ace- are shuffled face down. One of the cards is picked at random.
- What is the probability that the ace is picked?
 - If the jack is drawn, and kept out, what is the probability that the next card chosen will be an ace?

- 2) A bag contains 5 white marbles, 3 black and 2 red.
- What is the probability that if one marble is chosen at random it will be white?
 - If a white marble is chosen, and not replaced, what is the probability that a black marble will be chosen next?



- 3) A bag contains 6 red counters and 10 green counters.
- If a counter is removed what is the probability that it is red?
 - If the counter was red and it was not replaced what is the probability that the next counter to be picked out would also be red?

- 4) A bag contains 1 red counter and 5 green counters.
- If a counter is removed what is the probability that it is red?
 - If the counter was red and it was not replaced what is the probability that the next counter to be picked out would also be red?

- 5) A bag contains 5 red counters and 12 green counters.
- If a counter is removed what is the probability that it is red?
 - If the counter was red and it was not replaced what is the probability that the next counter to be picked out would also be red?



- 6) A bag contains 8 red counters and 5 green counters.
- a) If a counter is removed what is the probability that it is red?
 - b) If the counter was red and it was not replaced what is the probability that the next counter to be picked out would also be red?

- 7) The pupils in a class were asked how often they had visited the doctors last term.

The table gives the replies.

Visits	Frequency
1	5
2	6
3	15
4	3
5	1

- a)
 - i) How many were asked?
 - ii) How many said "2 times"
 - iii) What is the probability that if one of the pupils is chosen at random they will have said "2 times"
- b) What is the probability that if someone from the class is chosen at random they will have said:
 - i) 4 times?
 - ii) Less than 3 times?
 - iii) More than twice?