

1.1- Research what the definition of probability is.

1.2- Describe how is probability measured as a numerical measure?

1.3- Research what the definition of the following terms:

a) Independent Events in Probability

b) Combined Events in Probability

1.4- Two fair dice are rolled at the same time and their scores are added together. Find the probability of the sum of the two dice equalling 7.

a) Is this an Independent event or combined event? _____

b) Fill in the sample space diagram to find the probability of two dice equalling 7

| + | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---------|---------|---|---|---------|---|---|----|
| 1 | $1+1=2$ | $1+2=3$ | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | $5+4=9$ | | | |
| 5 | | | 8 | | | | | |
| 6 | | | | | | | | 14 |

c) The sample space diagram shows there are ____ ways of making a 7, out of a total of ____ possible outcomes.

d) Therefore, the probability of rolling two dice and the sum being 7 is $\frac{\quad}{\quad}$, simplified to $\frac{\quad}{\quad}$.

Probability Experiment

- 1) Flip a coin 10 times.
- 2) Record the result as a tally mark whether the coin landed on 'heads' or 'tails'
- 3) Repeat until you have ten results.

| | Tally | Total |
|-------|-------|-------|
| Heads | | |
| Tails | | |

According to your results, what is the probability of getting a heads? _____

Repeat again for 20 coin flips

| | Tally | Total |
|-------|-------|-------|
| Heads | | |
| Tails | | |

According to your results, what is the probability of getting a heads? _____

Repeat again for 30 coin flips

| | Tally | Total |
|-------|-------|-------|
| Heads | | |
| Tails | | |

According to your results, what is the probability of getting a heads? _____

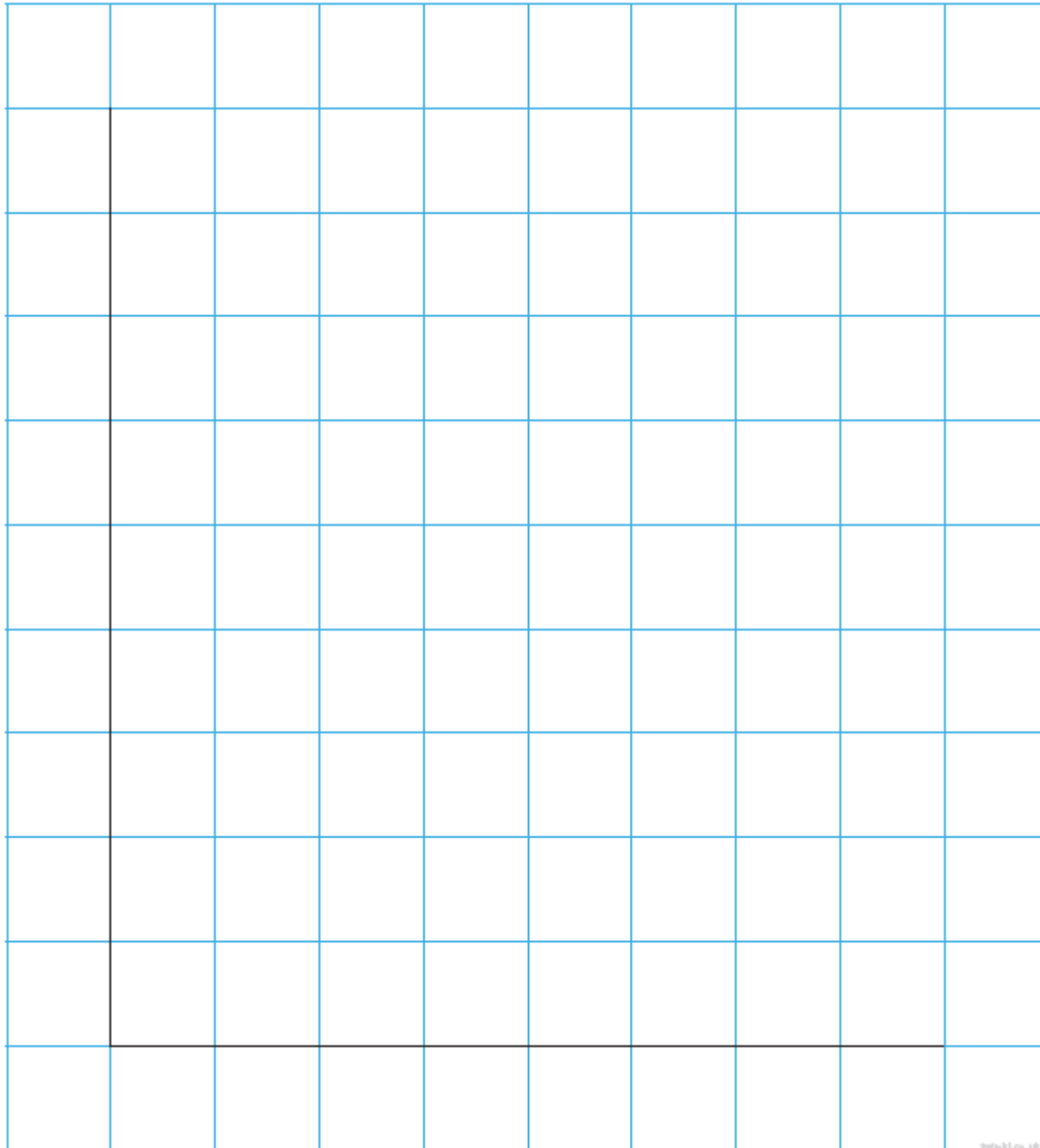
Repeat again for 40 coin flips

| | Tally | Total |
|-------|-------|-------|
| Heads | | |
| Tails | | |

According to your results, what is the probability of getting a heads? _____

In conclusion, what were your findings?

Record your results in a graph below



Record your results in a written conclusion, what would you say about the probability experiment you completed? What were your findings?

2.1- Describe an instance when you might come across probability

2.2- You have bought a multipack of crisps which contains:

- 5 x cheese and onion
- 3 x ready salted
- 2 x salt and vinegar.

a) Populate the grid below to show what the probability is of getting each flavour when picking a bag at random

| Flavour | Probability |
|------------------|-------------|
| Cheese and onion | |
| Ready salted | |
| Salt and vinegar | |

b) What is the probability of getting a bag of cheese and onion and then a bag of ready salted? Express your answer as a number and to 2 decimal places

c) What is the probability of getting 2 bags of salt and vinegar in a row? Express your answer as a fraction