

Chapter 10 Probability

1. I know that probability uses numbers to tell us how likely something is to happen on a probability scale of 0 (impossible) to 1 (certain) expressed as a fraction or decimal and that $\frac{1}{2}$ or 0.5 represents and '**evens chance**' of something happening.

I can count the number of sections on a probability scale and note the probability scale value accordingly for each graduation on the scale = $1/\text{number of sections}$

Q2 Q4 Q6 Page 178

2. I know that 'throwing a dice' is a **TRIAL**

That the required favourable result is an **EVENT**. i.e throwing a 6

That the numbers 1,2,3,4,5,6 all have an '**EQUALLY LIKELY**' chance of happening and represent the **list of 'possible outcomes'** also known as the '**sample space**' In this case, the 'equally likely' chance expressed as a probability is $1/6$

For equally likely outcomes, the probability of Event E occurring is:

$P(\text{Event}) = \text{number of successful(favourable) outcomes of event} / \text{number of all possible outcomes}$

Also If A is an Event then $P(A \text{ happening}) = 1 - P(A \text{ not happening})$

I know that the probabilities of equally likely events add up to 1.

Example 1 Page 181

3. I know that the **Fundamental Principle of Counting** states that if one event has **m** possible outcomes and a second event has **n** possible outcomes, the two events have **$m \times n$ possible outcomes** in the sample space.

i.e if a boy can choose a shirt, a jacket and a tie from 5 shirts, 3 ties and 4 jackets he has $5 \times 4 \times 3$ choices

4. I know how to generate **sample spaces** on a grid (2 way table) resulting from 2 events like tossing a coin and throwing a dice. I can find required probabilities from the generated sample space.

Q2 Q4 Q6 Q8 Page 176

Q2 to Q22 Even numbers Page 181

Q2 to Q8 Even numbers Page 186

5. I know how to find the '**EXPERIMENTAL PROBABILITY or RELATIVE FREQUENCY =**
Number of successful Trials / Total Number of Trials'

I know that the experimental probability value approaches the theoretical probability value with increased trials if the coin etc is not biased.

Example 1 Page 189

6. I know how to find the '**EXPECTED FREQUENCY**' = 'probability of the event happens' X 'number of trials' and know that the sum of probabilities adds up to 1.

Example 2 Page 190

Q2 to Q16 Page 191

7. I know how fill in, complete and read the cardinal numbers (#) for 2 and 3 topic **Venn Diagrams**.

I know how to find the probabilities of events happening using **Venn Diagrams** starting out with the 'And One(only) Or technique.

Example 1 Page 194

Q2 to Q8 even numbers Page 195

8. I know how to generate a **TREE DIAGRAM** listing outcomes and associated probabilities for various trials and how to calculate the probability of all outcomes in the sample space.

Example 1 page 198

Q1 to Q9 Page199