



Experimental Probability

Objective: to be able to calculate experimental probability and use it to calculate expected results

Starter questions

A With a fair dice, what is the probability of rolling:

1. a 1
2. a 2
3. an odd number
4. a number bigger than 4
5. not the number 5
6. a 4 or 3

B Below are the probabilities of an event happening, write down the probability of that event **NOT** happening.

1. 1 out 6
2. 11 out 30
3. 0.2
4. 25%
5. 0.99

C Work out:

1. 0.2×8
2. 0.3×5
3. 0.5×12
4. 0.11×4
5. 0.25×16

Main questions

1. Simon records the color of cars going past his house for an hour

Colour	Frequency
Blue	5
Red	4
Yellow	1
White	7
Black	3

- What is the probability the next car will be i) blue ii) red iii) Not black
- How many Red cars would you expect if i) 100 cars went past ii) 60 cars went past iii) 120 cars went past

2. Sammy throws a drawing pin 200 times and records how it lands

Pin up	160
Pin down	40

- What is the probability the pin will land i) pin up? ii) pin down
- How many pin ups would you expect if the pin was thrown i) 80 times ii) 320 times iii) 400 times iv) 1000 times

3. A group of children are asked to write for their favourite food, and child is picked at random

Favourite Food	Number of people
Chinese	20
Pizza	16
Mexican	18

- What is the probability the person i) liked Chinese? ii) Didn't like Mexican best.
- How many people would you expect to like pizza if i) 100 people were asked ii) 250 people were asked iv) 1000 people were asked?

Star question

I want to know the probability of selecting a four letter word from the dictionary (or any other book) if I choose a word from random.

- Design and carry out an experiment to find the probability of finding a four letter word.
- How many for letter words would I expect to select if I picked 100 words.
- How can I make the experiment as accurate as possible?