MATHEMATICS Unit 4: Understanding risk II	Year Group: 8 set 1-3

Key Vocabulary

Probability	The chance that a particular outcome of an event will occur.
Theoretical probability	Ratio worked out on reasoning $\frac{\text{number of wanted outcomes}}{\text{total number of outcomes}}$
Event	A set of possible outcomes resulting from a particular experiment
Outcome	One of the possible results of a probability experiment
Impossible	Never going to happen
Unlikely	Not much chance of the event occurring
Evens chance	The same chance of occurring as not occurring
Likely	A good chance of occurring
Certain	Will definitely happen
Equally likely	All events have the same chance of occurring
Mutually exclusive	Two events which cannot happen at the same time
Experiment	The name given to any controlled, repeatable process.
Sample space	A term used in maths to mean all possible outcomes

Key facts / Diagrams

Using a table to capture all outcomes of an event

• Rory has two spinners. A grey spinner with numbers 1,2,3,4.

A white spinner with number 1,2,3,4,5.

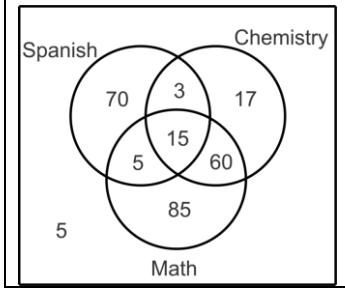
He spins them both and adds the number they both land on.

		Grey Spinner		
		1	2	3
White Spinner	1	2	3	4
	2	3	4	5
	3	4	5	6
	4	5	6	7

Use the table to find the probability of obtaining a 5.

$\frac{3}{12}$ or $\frac{1}{4}$ probability of getting the number 5.

In a class of 260 seniors, 93 study Spanish, 95 study Chemistry, 165 study Mathematics, 18 study Spanish and Chemistry, 75 study Chemistry and Math, 20 study Math and Spanish and 15 study all three subjects. Make a Venn diagram to illustrate the data and then find the probability that a student selected at random studies:



Common misconceptions

- Some students may think that there are only three outcomes when two coins are flipped, or that there are only six outcomes when three coins are flipped
- Some students may think that there are 12 unique outcomes when two dice are rolled
- Some students may think that there are 12 possible totals when two dice are rolled

Worked examples

50 people took a test. They predicted if they would pass or fail.

30 people predicted they would pass.

26 of those that predicted they would pass, did pass.

37 people passed all together

Complete the frequency tree.