Problem of the Week: Week 2 (Sum2): Year 10: Probability

- apply the property that the probabilities of an exhaustive set of mutually exclusive events sum to one
- calculate the probability of independent and dependent combined events, including using tree diagrams and other representations, and know the underlying assumptions
- **{calculate and interpret conditional probabilities through representation using expected frequencies with two-way tables, tree diagrams and Venn diagrams}.**

Takeaway Time

https://nrich.maths.org/7178

35 teenagers were asked what takeaway meals they liked to eat.

24 answered Chinese food
16 answered Indian food
10 answered pizza

None of the teenagers liked all three.
All who liked pizza also liked Chinese.
9 of the Chinese fans didn't like either Indian or pizza.

If all the teenagers liked at least one, how many liked only Indian?

Odd Dice

https://nrich.maths.org/13666

Three fair, six-sided dice are numbered as follows:

A: 1, 1, 1, 2, 2, 2
B: 3, 3, 4, 4, 5, 5
C: 6, 7, 7, 8, 8, 8

The three dice are rolled once. What is the probability that the sum obtained is an odd number?

This problem is taken from the World Mathematics Championships