

2B Conditional Probability

1. A school has 75 students in year 12. Of these students, 25 study only humanities subjects (H), and 37 only study science subjects (S). 11 students study both types of subject.
 - a) Draw a two-way table to show this information

Find:

b) $P(S' \cap H')$

c) $P(S|H)$

d) $P(H|S')$

2. Two four sided dice are thrown together, and the sum of the numbers shown is recorded.

a) Draw a sample space diagram showing the possible outcomes

b) Given that at least one dice lands on a 3, find the probability that the sum of the two dice is exactly 5

c) State one modelling assumption used in your calculations