Section 1: Working with probability

Exercise level 1

1. A fair octahedral die (eight sided, numbered 1 to 8) is thrown.
   Find the probability that it shows:
   (i) a 5
   (ii) 5 or more
   (iii) less than 5
   (iv) a multiple of 2.

2. A fair dodecahedral die (twelve sided, numbered 1 to 12) is thrown.
   Find the probability that it shows:
   (i) a 3
   (ii) an even number
   (iii) a multiple of 3 and an even number
   (iv) a multiple of 3 or an even number
   (v) neither a multiple of three, nor an even number

3. Two dice are rolled at the same time. The numbers shown on each of the dice are added together to give a total score. Complete the sample space diagram below:

		Dice 1					
		1	**2**	**3**	**4**	**5**	**6**
Dice 2	**1**	2					7
	2		4				
	3						
	4						
	5						
	6		8			11	12

   If the two dice are rolled, use the diagram to calculate
   (i) the probability of getting a total score of 6.
   (ii) the probability of getting a total score of 7.
   (iii) the probability of getting a total score of 3 or 4.
   (iv) the probability of getting a total score which is even.

4. 100 adults and 60 children are asked whether they own a dog or not. The results are shown in the table below.
   Complete the table.

	Dog owner	Not a dog owner	Total
Child		32	60
Adult	67		100
Total			

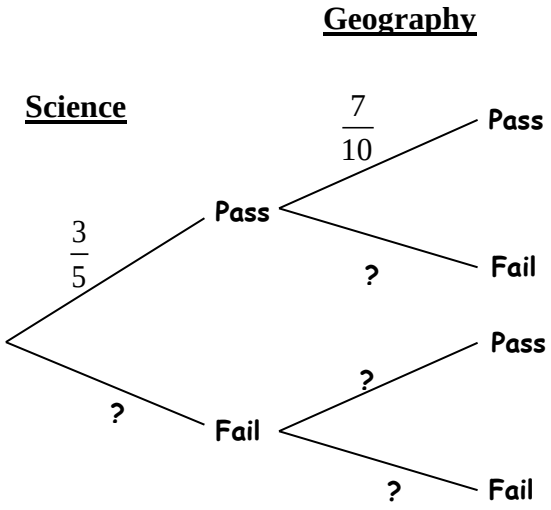
Edexcel AS Probability 1 Exercise

If one person is chosen at random, use the table to calculate the probability that the person is

(i) A child who owns a dog
(ii) An adult who does not own a dog
(iii) A person who owns a dog.

5. The probability that a student will pass a Science test is $\frac{3}{5}$. The same student has probability $\frac{7}{10}$ of passing a Geography test.

Complete the tree diagram to illustrate this information.



Calculate the following probabilities:

(i) The student will pass both tests.
(ii) The student will fail both tests.
(iii) The student will pass one test and fail one test.