Finding Probability from Two-Way Tables

(a)

The two-way table shows some information about the favourite subjects of some Year 10 and 11 students.

	Art	Music	Drama	Total
Year 10	34	21	33	88
Year 11	49	24	19	92
Total	83	45	52	180

(a) Complete the two-way table.

(b) A student is chosen at random. Find the probability that their favourite subject is Music. $\frac{45}{180}$

(c) A student is chosen at random. Find the probability that they are a Year 11 student whose favourite subject is Drama. $\frac{19}{180}$

(b)

The two-way table shows the favourite holiday destination of some people in their twenties.

	France	Italy	Spain	Total
Age 20 to 24	19	28	101	148
Age 25 to 29	44	31	35	110
Total	63	59	136	258

(a) Complete the two-way table.

(b) A person is chosen at random. Find the probability that they are aged between 25 and 29. $\frac{110}{258}$

(c) A person is chosen at random. Find the probability that they are aged 20 to 24 and their favourite destination is Spain. $\frac{101}{258}$

(c)

The two-way table shows some information about the favourite fruits of two reception classes.

	Apple	Orange	Banana	Total
Class 1	4	11	13	28
Class 2	6	10	9	25
Total	10	21	22	53

(a) Complete the two-way table.

(b) A student is chosen at random. Find the probability that they are a student from Class 1 who likes bananas. $\frac{13}{53}$

(c) A student from Class 2 is chosen at random. Find the probability that their favourite fruit is apple. $\frac{6}{25}$

(d)

The two-way table shows some information about languages studied by Year 7 and 8 students.

	French	German	Spanish	Total
Year 7	46	45	54	145
Year 8	40	52	73	165
Total	86	97	127	310

(a) Complete the two-way table.

(b) A student is chosen at random. Find the probability that they are a Year 8 student who studies French or German. $\frac{92}{310}$

(c) A student who studies Spanish is chosen at random. Find the probability that they are in Year 7. $\frac{54}{127}$