General practice

QT Stratified Sampling

1. The table shows the number of students in each year group at school.

Year Group	7	8	9	10	11
Number of students	220	182	161	170	158

891

Joe is carrying out a survey and uses a stratified sample of 90 students. Calculate the number of Year 9 students in Joe's sample.

$\frac{161}{891} \times 90 = 16.26$ 16 students.

2. In a school 277 students each study one of three subjects.

	Maths	English	Science
Male	32	49	27
Female	41	56	72

A sample, stratified by language studied and by gender, of 60 of the 277 students is taken. Calculate the number of female students studying English in the sample.

$\frac{56}{277} \times 60 = 12.12996...$ 12 students.

3. At a hospital 746 patients had the same operation. The table shows the age and gender of the patients.

	Age under 18	Age 18 – 65	Age over 65
Male	84	342	50
Female	39	194	37

The hospital wants to take a stratified sample of 80 patients. Complete the table to show how many people from each group should be sampled.

	Age under 18	Age 18 – 65	Age over 65
Male	9	37	5
Female	4	21	4

$\frac{84}{746} \times 80 = 9$ $\frac{342}{746} \times 80 = 36.675$ $\frac{50}{746} \times 80 = 5.362$

$\frac{39}{746} \times 80 = 4.18$ $\frac{194}{746} \times 80 = 20.804$ $\frac{37}{746} \times 80 = 3.967$