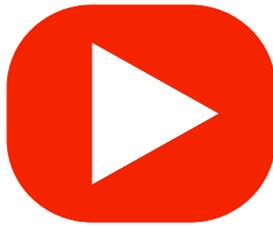


Examples

Workout



Click here



Scan here

Question 1: This table shows information about the number of students in years 9, 10 and 11.

Year 9	Year 10	Year 11
100	50	50

The headteacher is going to survey some of the students about the school library.

(a) Explain why it is appropriate to take a stratified sample

The headteacher takes a stratified sample of 40 students.

(b) Work out how many students should be surveyed from each year group.

Question 2: A vet treats 100 pets over 1 week.

Cats	Dogs	Rabbits
30	50	20

A stratified sample of 10 is required.

Find the number of each type of pet that the vet should choose.

Question 3: The table shows information about the inhabitants of a village.

Age	Population Size
0 - 20	70
21 - 40	80
41 - 60	40
Over 60	10

Henry takes a stratified sample of 40.

Work out the number of each age group that Henry should choose.

Question 4: The table shows the holiday destinations of some tourists.

Spain	Portugal	France	Italy
48	66	102	84

A stratified sample of 50 is planned.

Calculate the number of visitors to each country that should be selected.

## Stratified Sampling

Video 281 on [www.corbettmaths.com](http://www.corbettmaths.com)

Question 5: The table shows how all 240 students travel to school.

Walk	Car	Bus	Train	Cycle
105	30	70	10	25

A stratified sample of 48 students is to be taken.  
Calculate the number using each method that should be surveyed.

Question 6: A business has 80 employees.

Production	44
Dispatch	16
Admin	20

The director wants to survey 10 employees, stratified by job role.  
Calculate the number of each type of employee needed for his survey.

Question 7: A factory uses four machines to make parts for microwaves.  
In one hour, the machines made 120 parts and the table below shows information on the number of parts created by each machine.

A	B	C	D
40	11	44	25

Eve wants to test the quality of the parts.  
She wants to choose a stratified sample of 30 parts.

Calculate the number of parts Eve should test from each machine.

Question 8: A cinema sold 1500 tickets last week  
A stratified sample of 100 customers is chosen based on the film genre.

Horror	Comedy	Action	Other
210	660	130	500

Calculate the number of customers for each genre chosen.

Question 9: Shaun works in a confectioners.  
He is asked to test a sample of 200 chocolates stratified by type of chocolate.  
The table shows the number of each type of chocolate in the shop.

Dark	Milk	White
2500	3600	1500

Calculate the number of each type of chocolate required for his stratified sample.

## Stratified Sampling

Video 281 on [www.corbettmaths.com](http://www.corbettmaths.com)

Question 10: The table below shows the age group of the members of a tennis club.

Age Group	Junior	Adult	Senior
Number	320	500	130

A stratified sample of 40 is to be taken.  
Calculate the number for each age group in the sample.

Question 11: The table shows information about the ages of people on a train.

Age range	Frequency
under 18	16
18 to 40	41
41 to 60	84
over 60	29

The train conductor gives a questionnaire to some of these passengers.

She takes a sample of exactly 50 passengers stratified by age range.

Work out the number of passengers in each age range that the train conductor should have in her sample.

Question 12: The table below shows information about the vehicles sold by a dealership.

Car	Van	Motorbike	Caravan
5112	1048	2948	750

The manager takes a sample of 150 customers, stratified by type of vehicle sold.  
Calculate the number of each vehicle type in the sample.

### Apply

Question 1: Mr Henderson is going to survey the students in his school.  
The table shows the number of students in each year group.

Year	Boys	Girls	Total
8	91	100	191
9	82	95	177
10	84	84	168
11	75	70	145
12	68	71	139
			820

Mr Henderson wants to take a sample of 60 students, stratified by year and by gender.

- (a) What is a stratified sample?
- (b) Work out the number of year 9 girls that should be in the sample.
- (c) Describe a method to randomly select the year 9 girls

## Stratified Sampling

Video 281 on [www.corbettmaths.com](http://www.corbettmaths.com)

Question 2: A cricket club has 300 members.  
A stratified sample of members is taken, by age group.

Some information is given in the table.

	Junior	18 - 40	41 - 60	Senior
Number of members	40		115	
Number in sample	8			7

Complete the table.

Question 3: Matthew owns 2400 stamps from several different countries.  
He takes a stratified sample, by country.

Some information is given in the table.

Country	France	Spain	Turkey	UK
Number of stamps		320		1120
Number in sample		20	7	

Complete the table.

Question 4: Here is some information about the colour of raffle tickets sold.

Pink	Green	Yellow
145	125	340

A sample of size 20, stratified by colour of raffle ticket is taken.  
From the sample of 20, two winning tickets are chosen at random.

Work out the probability that the two tickets are different colours.

Answers



Click here



Scan here