Stratified Sampling

1. Here is a table showing how many students there are at Geometry High

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | 7 | 8 | 9 | 10 | 11 |
| No of students | 100 | 120 | 115 | 130 | 126 |

I want to take stratified sample of 150 people from the school. How many year 11’s should I include in my sample.

1. Debbie is carrying out a survey to see how much people spend on groceries. She has the following information about which people shop at which supermarket in her town.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Supermarket | Sainsbury’s | Tesco | Aldi | Waitrose | M&S |
| No of shoppers | 6400 | 5100 | 4500 | 2000 | 1350 |

She wants to conduct a stratified sample of 200 people, how many people should she survey from each supermarket?

1. The table gives information about the number of 564 students doing extracurricular clubs at a secondary school to see how much time they spend on homework.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Club | Chess | Sports | Art | Music | Debating | Drama |
| Boys | 24 | 85 | 43 | 36 | 25 | 54 |
| Girls | 16 | 80 | 50 | 41 | 28 | 82 |

A stratified sample is to be carried out of size 60.

1. How many Boys from chess club should be sampled?
2. How many girls from Drama should be sampled?
3. In a teenage professional football club of 340 players, 18 are aged between 11 and 12. If a stratified sample of size 100 were to be carried out, how many 11-12 year olds should be included in the sample?
4. The table shows the number of male and female students attending an after school arts programme

|  |  |  |
| --- | --- | --- |
| Age (years) | Number of male students | Number of female students |
| 16 | 50 | 30 |
| 17 | 60 | 40 |
| 18 | 76 | 54 |
| 19 | 13 | 24 |

Copy and complete the table showing how many students from each category should be included in a stratified sample of size 40.

1. The table fives information about the number of girls in 4 schools.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| School | A | B | C | D | Total |
| Number of girls | 126 | 82 | 201 | 52 | 461 |

1. A girl is selected at random, what is the probability she will be from school C?
2. A stratified sample of size 50 is taken, how many students from school C should be chosen?