WJEC Intermediate/Higher Tier Sampling Questions

- (a) A School Council wants to know pupils' views on their school uniform. Which of the following statements shows how a truly random sample of the general population can be obtained? [1] Circle your answer.
- A: Randomly selecting pupils in the canteen at lunchtime.
- B: Randomly selecting pupils from those that attend the next School Council meeting.
- C: Randomly selecting pupils with a surname beginning with the letter J.
- D: Giving each pupil a raffle ticket and then randomly drawing raffle tickets for selection.
- E: Selecting every 2nd pupil from each form register.
 - (b) VotePredict is a specialist company working in the field of polling and predicting voting patterns in elections worldwide.

They are asked to organise a debate with an audience that is representative of five political parties.

The five political parties and their predicted number of votes, given in alphabetical order, are as follows.

Political Party	Predicted votes
Central	23 456
Economy	43 244
First Reformists	83 124
Status Quest	11782
West Term	63 789

It is intended to have 250 people in the audience at the debate.

The invited audience should be a stratified sample using this information.

How many people who intend to vote for the Central Party should be in the audience?	

Selecting the first name on each class register will give a random sample.	TRUE	FALSE
The ratio of boys to girls in a school is 2 : 3. The pupil committee of 30 pupils is selected using a gender stratified sample. There are 10 boys and 20 girls on the school committee.	TRUE	FALSE
A telephone survey is carried out to find which political party people support. The sample of people surveyed is not a random sample of the whole population.	TRUE	FALSE
A stratified sample always considers proportions according to given criteria.	TRUE	FALSE
A random sample of people means everyone has an equal chance of being selected.	TRUE	FALSE

Porth Ifan Hospital has made some changes to improve patient care. A survey is to be used to find out the views of the hospital staff.

(a) The table shows the total number of staff in each job type.

Job type	Doctor	Nurse	Management	Clerical
Number of staff	120	320	56	144

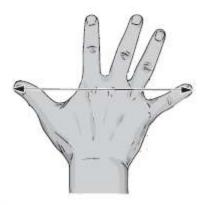
The survey is to be given to a sample of 75 staff.

Jse a stratified sampling method to calculate the number of staff from each job type that should be asked to complete the survey. You must show your working. [4]					
You must snow your wor	iking.				[4]
Job type	Doctor	Nurse	Management	Clerical	
Number in sample					

(b)	 (b) The hospital decides to take a random sample of its 120 doctors to select those needed for the survey. Use the following list of random numbers to select the first 5 doctors. You must start with the first number in the list, explaining clearly how you are using the numbers to select the sample. 									
	032	520	021	924	152	627	351	295	081	495
	542	708	339	557	396	949	417	235	962	261
	837	783	983	493	876	924	032	421	205	740
	055	491	806	415	158	392	441	521	105	342
	782	398	923	729	968	244	119	480	451	780

Simon plans to make gloves.

One morning, Simon decided to carry out a survey to find the mean hand span of people in Wales.



He decided to sample systematically. He decided to sample from the first 240 people who pass him in the street during the morning.

He wanted to take 20 people's hand span measurements. Explain how Simon could use systematic sampling to obtain 20 measurements.	[1]

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J.	THE Lable	: SHOWS THE	number	ui reai i	i pupiis	attenuniq	SCHOOLS III	Cwillian.

School	Cwrt Haf	Cwmifan High	Henclwyd
Number of Year 11 pupils	307	239	144

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umber of Year 11 pupils	307	239	144						
In total there are 690 Year 11 pupils attending these three schools.									
A new youth theatre has been set up in Cwmifan. On the opening night, a total of 80 Year 11 pupils from these three schools are going to be invited to attend.									
Use a stratified sampli who should be invited.	ng method to calculate	the number of Year 11	pupils from each schoo						
You must show all your	working.		[3]						
School	Cwrt Haf	Cwmifan High	Henclwyd						

School	Cwrt Haf	Cwmifan High	Henclwyd
Number that should be invited			