

AQA

A Level

A Level Mathematics

Sampling Techniques

Name:

M M E

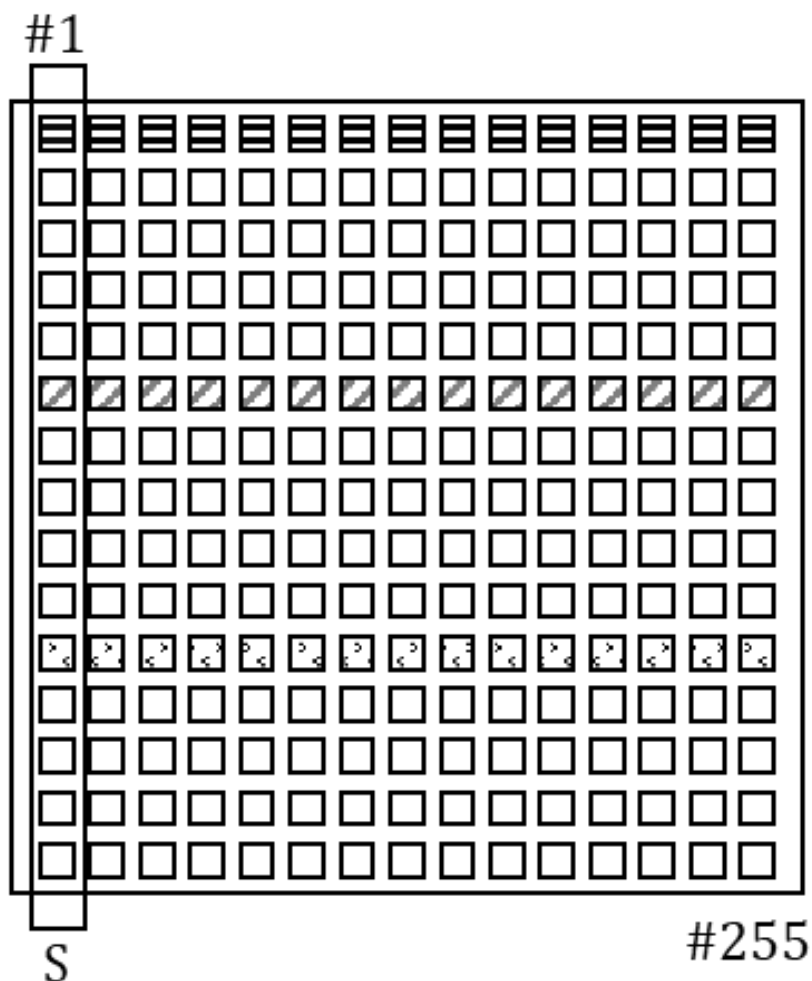
Mathsmadeeasy.co.uk

Total Marks:

K1- Sampling Techniques- Questions

AQA

- 1) You want to question 100 students on how they like the new *healthy+* vending machine in comparison to the old *vendo90*. You ask the first 100 students to enter the canteen.
- i) Name the sampling technique along with an advantage and disadvantage of using this technique. [3]
 - ii) Write a one question survey that could be used to provide an alternate hypothesis to: [1]
 H_0 : There is no difference in preference between *healthy+* and *vendo90*.
- 2) State an advantage and a disadvantage of:
- i) Random sampling [2]
 - ii) Stratified sampling [2]
- 3) On the diagram below select five squares to illustrate:
- i) Random sampling, using the letter R [1]
 - ii) Opportunity sampling using the letter O [1]



- 4) ChocoChocs are redesigning their family packet of *darkedence* bars. You need a sample of ten out of the twenty people. The order they give their response, the number of bars they eat, and the number of people in their family (House size) are shown below.

Order	Bars Eaten	House Size	Order	Bars Eaten	House Size
1	0	1	11	0	2
2	2	3	12	3	3
3	0	3	13	4	4
4	4	1	14	10	5
5	1	2	15	2	1
6	2	2	16	4	4
7	3	4	17	6	3
8	2	2	18	4	4
9	1	1	16	4	6
10	2	3	20	2	5

Choose and justify a sampling method (random, opportunity or stratified) to recommend the new size of the family pack based on the average amount of *darkedence* bars consumed. You must state clearly:

- i) The mean, median, mode and range of *darkedence* bars consumed. [4]
- ii) The sampling method used along with justification. [3]
- iii) Your recommendation for the new size pack [1]

- 5) Seventy-six young males actively seek out and participate in surveys for money. The surveys involve trialling a product then being interviewed by a market-researcher about the product. Sixty-five of the group, agreed the sauce was the best they had tasted that year. The company are pleased with the results and now run with the tagline:

“9/10 people say it’s the tastiest sauce this year”.

Write four points criticising any of the processes that led up producing the tagline.

[4]