WHICH SUBJECT DID LISA OUTPERFORM HER CLASSMATES THE MOST?
(SAMPLE)

Table 1 below shows the Mathematics, Science, and English test scores from students in a class. One of the students, Lisa, was the top scorer for all the subjects and her marks are shown in bold.

Table 1: Mathematics, Science, and English test scores of students from a class, arranged in ascending order. Lisa's scores are indicated in bold. One of the students was absent from the English test.

Mathematics Scores	Science Scores	English Scores
72	72	72
73	73	72
74	80	75
75	80	75
75	81	78
75	81	78
81	81	81
81	81	81
81	81	84
87	81	84
87	81	87
87	82	87
88	82	90
89	89	**Lisa's score - 90**
Lisa's score - 90	**Lisa's score - 90**	

Based on the data above, in which subject did Lisa outperform her classmates the most?

With your teammates, please design a mathematical **measure** to determine the answer. Here is what you must do:

(1) Using the data provided in the Table 1, come up with <u>as many different measures as possible</u> to decide which subject Lisa outperformed her class the most.
(2) You should make use of <u>all data points</u> in the table when coming up with your measures.
(3) Include appropriate working and calculations when formulating your measures, and show all these on blank or foolscap papers.

All the best, and remember, don't give up until you have developed many measures of deciding which subject Lisa outperforms her classmates the most!

INSTRUCTION SHEET

Please read the following problem carefully. Note that all the information you need to solve the problem is already in the problem. There are many ways of solving the problem, so please brainstorm and work together to come up with ideas. Please expect that this will take more time than the usual math problems that you are used to. If you get stuck while solving the problem, please <u>do not</u> give up! Think of another strategy and continue to find a possible solution.

If you have any questions, raise your hand. You may use a calculator to help you where necessary. When you have finished, submit your solution as a group and make sure to show all your work, calculations, including rough work. Please cancel solutions that you think may be wrong. Do not erase them.

When you are working in your group, be sure to observe the following:

Take turns and listen to the speaker.

Offer alternatives and work towards consensus.

Get focused: Stay on task.

Examine the ideas. Do not criticize the person.

Talk loud enough for your group to hear you.

Have an open mind.

Expect differences.

Respect others' views.

Thank you for your co-operation!