

Year 9 Math Project

(Dr. Martin and Mr. Biswas)

You will work in groups of about 4 students, assigned by your teacher, on this project. The final report will be due in about a week. Each student will hand in their own type written report. Groups will work together to solve and discuss the problem:



$$\square + \square + \square + \square + \square = 50$$

Choose two numbers (they could be the same number) to place in the circle and in the first square. Then add the number in the circle to the number in the first square to give the number in the second square. Add the number in the circle to the number in the second square to find the number in the third square, and so on for the fourth and fifth squares. You are to choose the initial two numbers so that the resulting equation is true (that is, the sum of numbers in the five squares is 50).

After you have experimented, answer as many of the following questions as you can:

1. How many different solutions can you find?
2. Could you represent this problem in a more mathematical way?
3. Can you find solutions with different kinds of numbers (for example, natural numbers, integers, fractions, surds)?
4. If you place any number in one of the squares or in the circle, is it always possible to find a solution to the problem?

Each of you will write a report about this problem in which you explain what you understand about the problem. In your group, you will look at the reports you each write, then will choose which report you believe best describes and explains the problem and its solution. Finally, you will write a paragraph at the end of your own report explaining why you chose that report as the best in your group.

Report Guidelines

In the first part of your report, describe the problem in your own words, and then describe how you tackled the problem (the things you tried that did not work and the ideas that did work).

Next, describe your final understanding of the problem and its solutions. You can use the four questions given above to guide this discussion. You should explain—as clearly as possible—how to find as many different kinds of solutions as you found.

Next, explain whose report in your group you decided was the clearest and best. Explain why that report was chosen. Describe how the other group members would use that report to improve their own reports—what was it about the report that made it stand out from the others?

Finally, write a concluding paragraph that describes what you have learned from your work on this project.