

Name: _____

Math Art Project

You have been employed by *Miss B. and Miss D. Designs Ltd.*☺ to create a Math Art Display for our Class Blog. We've noticed that our blog has had fewer posts recently, and we want to make a Photograph Display that all of our blog visitors can enjoy.

In class, we have been learning about how to find the area and the perimeter of a rectangle, a square, and a parallelogram. Now we want you to show us what you know with the use of this application and communication challenge!

Project Requirements

- 10 shapes
- Total area less than 1000 units squared
- Total perimeter less than 500 units
- 1 shape with an area greater than 100 units squared
- 1 shape with a perimeter greater than 100 units
- 1 shape with an area greater than its perimeter
- 1 shape with a perimeter greater than its area
- 1 shape with an equal perimeter and area

Don't Forget To Communicate!☺

Once you have made your math art masterpiece, you need to prove to us that you met **every one of the project requirements**. You can explain your thinking and show your work in any way that you want (i.e., audio, written, video, or a combination). *Miss B. and Miss D. Design Ltd.*☺ plans on sharing all completed work on the class blog.

Frequently Asked Questions Answered (Before They're Asked)☺

1) Can we work in groups?

Yes, you can work in groups, but all group members are responsible for contributing to the project. Miss B. and Miss D. will be frequently conferencing with all groups, and if all group members are not sharing the workload, then those students that are not contributing, will need to work on their own. **Remember that you can also always choose to work on your own.**

2) Do we have to draw the shapes?

No, you do not need to draw the shapes. You can be creative. Different options might include:

- ✓ Cutting out and arranging different shapes for your math art.
- ✓ Using manipulatives in the classroom or in the school for your math art.
- ✓ Creating your math art on a tablet app or on the computer.
- ✓ Using geoboards (including the online one from the National Library of Virtual Manipulatives) for your math art.

The only requirement is that **we need a photograph of all completed math art, so that it can be posted on the class blog.** Remember that there can be no use of copyrighted materials.

3) Do the shapes need to be coloured?

Since this is a Math Art Assignment, the visual display should matter (regardless of if it's being assessed on the rubric). You want your work to look appealing since people will be looking at it on the blog. Colour is important, but how you colour the shapes and how much colour you use, will be up to you. **Remember: be creative!**

4) Do the measurements need to be accurate?

Yes, they do need to be accurate. Notice that the assignment refers to the measurements in units though. This means that you can choose the units. You could use a ruler for measuring and drawing the objects or you could use grid paper. **When you decide on your unit of measurement though, you should use the same unit for your entire Math Art Display.** You will have to **tell us what unit you used.**

5) Do we need a plan?

Planning is always a good idea. How you make your plan though is up to you. Just remember that you have a lot of requirements for this Math Art activity, so you will want to make sure that you've met all of them before you create a "good copy" of your work. Think of what strategy/strategies you used to meet these requirements, and be prepared to discuss this/them with us as well.

6) How much time will we get to work on this math project?

We are giving you **all of the math periods for the rest of the week** to work on this math project. We will be there to work with small groups of students and to help you if you have any questions. As we get closer to the end of the week, we will see how the groups are doing at finishing this project, and **if we need to give you an extra period next week, then we will do so.** Remember to use your time wisely.

Important Note: If you are working in a group, everyone in that group will receive the same mark, as all of you collaborated together to produce the final Math Art Project.

If you have any other questions, please just let us know!

Miss Bucciacchio and Miss Dunsiger

Presidents of *Miss B. and Miss D. Designs Ltd.* 😊

Name(s): _____

Rubric For The Math Art Project

	Level 1 (D)	Level 2 (C)	Level 3 (B)	Level 4 (A)
Knowledge and Understanding	Demonstrates limited knowledge of how to determine the perimeter of various shapes (i.e., squares, rectangles, and parallelograms) and the area of various shapes (i.e., squares, rectangles, and parallelograms). Demonstrates limited knowledge of how to create various shapes (i.e., squares, rectangles, and parallelograms).	Demonstrates some knowledge of how to determine the perimeter of various shapes (i.e., squares, rectangles, and parallelograms) and the area of various shapes (i.e., squares, rectangles, and parallelograms). Demonstrates some knowledge of how to create various shapes (i.e., squares, rectangles, and parallelograms).	Demonstrates considerable knowledge of how to determine the perimeter of various shapes (i.e., squares, rectangles, and parallelograms) and the area of various shapes (i.e., squares, rectangles, and parallelograms). Demonstrates considerable knowledge of how to create various shapes (i.e., squares, rectangles, and parallelograms).	Demonstrates thorough knowledge of how to determine the perimeter of various shapes (i.e., squares, rectangles, and parallelograms) and the area of various shapes (i.e., squares, rectangles, and parallelograms). Example - Determines the area and perimeter in more than one way. Demonstrates thorough knowledge of how to create various shapes (i.e., squares, rectangles, and parallelograms). Example - Uses more than one method to create different shapes.
Thinking	Limited use of planning skills to determine that the area and perimeter requirements of this activity were met.	Some use of planning skills to determine that the area and perimeter requirements of this activity were met.	Demonstrated the use of planning skills to determine that the area and perimeter requirements of this activity were met.	Used and shared multiple planning skills (e.g., guess and check, logical use of mathematical operations, knowledge and application of the area and perimeter formulas, etc.) to determine that the area and perimeter requirements of this activity were met.
Communication	Used few mathematical terms to explain how they solved these area and perimeter problems. Limited explanation of how they addressed the multiple area and perimeter requirements that were part of this problem.	Used some mathematical terms to explain how they solved these area and perimeter problems. Some explanation of how they addressed the multiple area and perimeter requirements that were part of this problem.	Used many mathematical terms to explain how they solved these area and perimeter problems. Explained how they addressed the multiple area and perimeter requirements that were part of this problem.	Used all appropriate mathematical terms in their explanation of how they solved these area and perimeter problems. Thoroughly explained, with the use of examples, how they addressed the multiple area and perimeter requirements that were part of this problem.
Application	Limited application of knowledge and skills from this measurement unit in addressing the perimeter and area requirements of this activity.	Some application of knowledge and skills from this measurement unit in addressing the perimeter and area requirements of this activity.	Applied knowledge and skills from this measurement unit in addressing the perimeter and area requirements of this activity.	Consistently applied knowledge and skills from this measurement unit, as well as what he/she has learned from previous math units (e.g., the use of divisibility rules to help with determining area options), in addressing the perimeter and area requirements of this activity.

Overall Mark: _____