Introduction

operimetric inequality means that: Among all the projects
ith the small perimeter, the ball has the largest volume.
ll objects have the same circumference, the disk has the
argest area

Isoperimetric Inequality

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Procedure

- Gather all necessary materials
- Use the scissors to cut different types of regular polygons and keeping the perimeters
- Compare the area of the polygons
- Put the shapes in different roof structures
- make the models of roofs

Problem / Purpose

- Using the same amount of material to build a roof, which shape of a roof will cover the most of the area?

Data Table

Shape of Roof	Number of sides	Area of the roof	perimeter
triangle	3	93.45cm2	44cm
square	4	121cm2	44cm
pentagon	5	133cm2	44cm
hexagon	6	138cm2	44cm
octagon	8	146cm2	44cm
disk	infinite	154	44cm

Variables

- Independent – The shape of the roof-number of sides of the roof(Disk, triangle, square, pentagon, hexagon, octagon)
- Dependent – area of the roof
- Constant – same amount of material and perimeter of the shape

Hypothesis

- If I build the roof with a disk shape, then it will cover more area, because the disk has the most area

Conclusion

- My hypothesis was correct, the disk has the largest area
- This is true because the more sides, the more area. The disk has no sides, but infinite. So, it will always have the largest area.

Materials

Construction Paper
Scissors
glue
Box

Result

The more sides the larger the area.
Also, you can see that the disk has the largest area.
So, if you want to build a roof, then you might want a circle shape.