Student's Note - Week 2 - Making a cube in GeoGebra, drawing points, line segments and polygons

This lesson has two parts - concept and problem.

- Concept session - 40 minutes
- Activity I- 10 minutes
- Activity II - 10 minutes
- Problem Solving - 15 minutes

Concept: Making a cube in GeoGebra, drawing points, line segments, and polygons - 40 minutes

Construction of any polygon in GeoGebra

We will first construct any polygon using the polygon command in the GeoGebra.

After that, We would take a few points and then construct them using the Polygon(point, point,...., point) command.

Construction of an equilateral triangle

Using the ***Regular polygon*** command in GeoGebra we can construct an equilateral triangle.

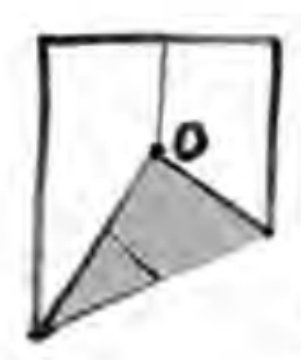
Construction of a cube

Using the 3D graphics in GeoGebra we can construct a cube in GeoGebra very easily.

Activity I - 10 minutes

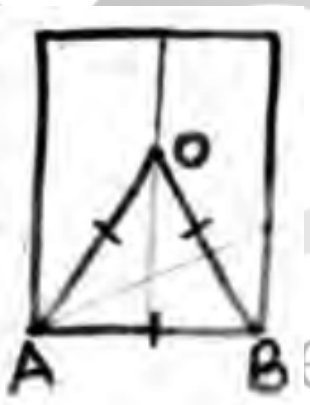
Making of a cube of 5 cm from a piece of paper

- First take an A-4 paper and fold the width of the paper in half. This means we would divide it into two equal parts.



- Now lift the width of the paper and put one of its corners on the crease as shown in the image.

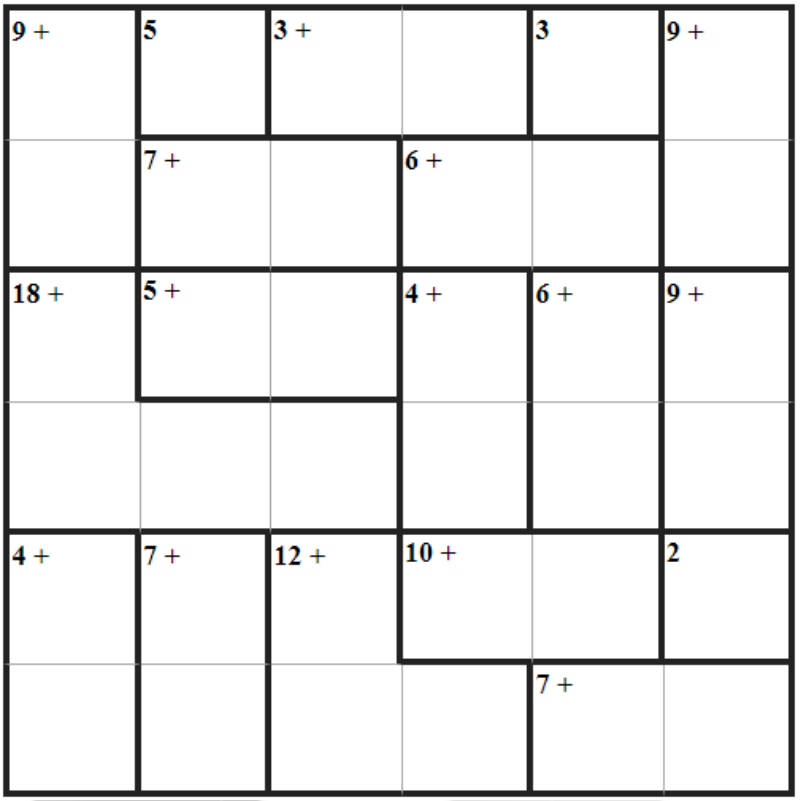
- The point at which one corner of the sheet is touched we would mark that point as ***O***.



- This ***O*** point is the third vertex of the triangle, where the other vertices are the corners of the A4-sheet.

So by joining the points we will get the required *equilateral triangle*

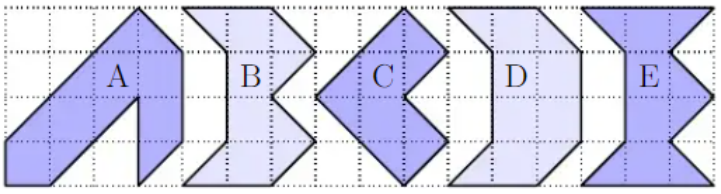
Activity - 10 minutes



Mixed Problems

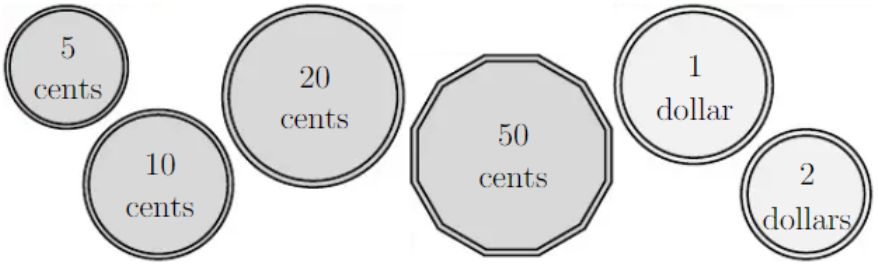
Problem 1

Which of the shaded areas below is the largest?



Problem 2

Joseph had some cash in his pocket. He had three of each of the Australian coins.



When he took them out to count them, he dropped the coins and lost some down the drain! He found \$11.05. How much did he lose?
Answer: 50 **cents**

Problem 3

15 children are attending a birthday party and we order some pizzas. Each pizza will be sliced into 8 equal pieces. What is the smallest number of pizzas we need to order to make sure that each child can eat 3 pieces?

(A) 4 (B) 5 (C) 6 (D) 7 (E) 8

Problem 4

Jack is 8 years old and his sister Charlotte is 14 years old. When Jack's and Charlotte's ages add up to 48, how old will Jack be?

Problem 5

In this magic square, the even numbers

$$2, 4, 6, \ldots, 18$$

are placed so that the sums of the numbers in each row, column and diagonal are equal. What is the sum of the two numbers in the shaded squares?

	18	
14		6
		16

Answer Key - Mixed Problem

Problem 1 : A

Problem 2 : 50 cents

Problem 3 : (C) 6

Problem 4 : 21

Problem 5 : Middle box 10 and the corner one 8