Obsah a obvod obdélníka
(Area and perimeter of a rectangle)

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Age of pupils: 11 -12

Time allocation: 6 – 8 lessons

Education field: Mathematics
                                and its Applications

Subjects: Mathematics, Craft, Art

Requirements

- Technology: program Geogebra
- Tools,materials:
1. Cardboard box 30 x 20 x 15 cm (approximately)
2. Squared paper
3. Glue, scissors, construction paper, promotional flyers, pictures of consumable goods, crayons, color papers
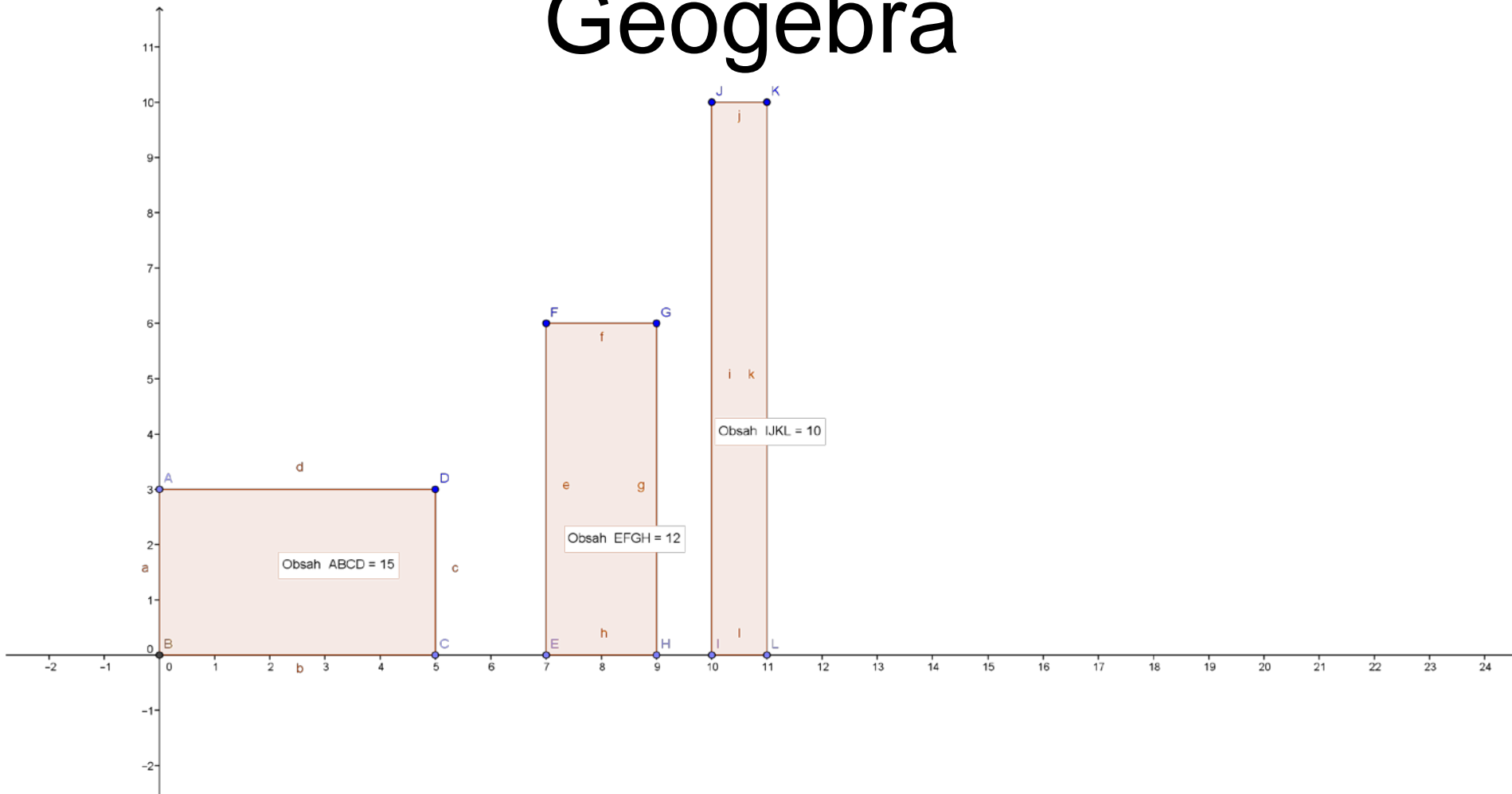
Task:

- Create a model of a room and its equipment at a scale of 1 : 20 with the help of a squared paper and availale materials.
- After finishing your work calculate examples from the worksheet.

Instructions:

- Stick squared paper on the walls of the box
- Create openings for windows and doors according to the real dimensions in scale 1 : 20
- Create furniture, a carpets and other equipment of the room in scale 1 : 20

Procvičení obsahu v programu Geogebra

Calculations:

- **Calculate the area of all the walls in a room with including openings for windows and doors.**
- **What is area of windows and doors?**
- **Calculate area of all the walls in a room without including openings for windows and doors.**
- **Calculate area of a floor and ceiling in a room.**
- **Calculate the volume of the room.**
- **Calculate surface area and volume of the largest piece of furniture in the room.**

Other calculations:

Calculate the price of curtains with regard to the practise (addition to folds -25%, addition for bend allowance – 10 cm)
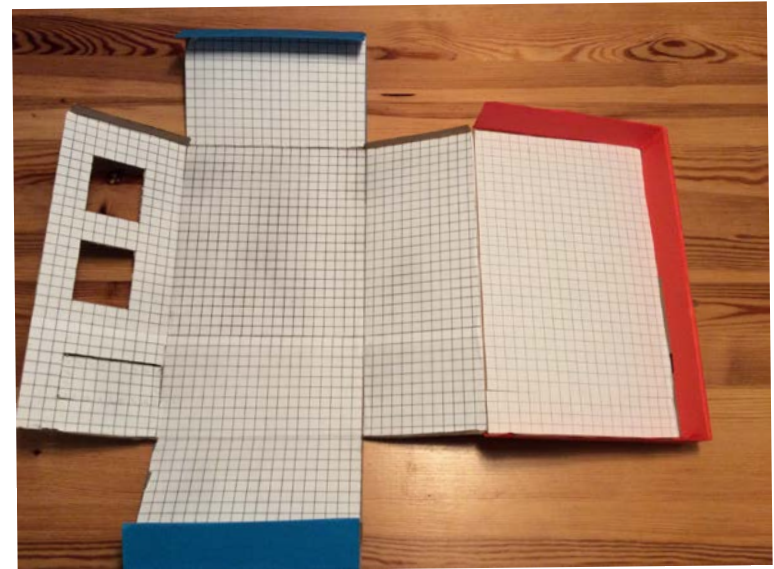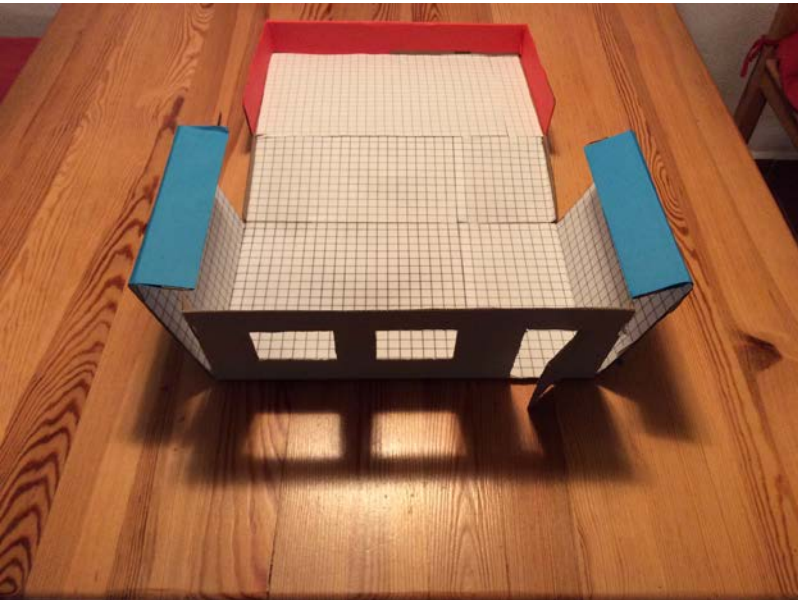
Calculate the price of a wall to wall carpet

- Calculate a consumption, number of packages and price of tape around the perimeter of the room.
- Calculate the volume of the room.
- Calculate the price of decoration of the walls.

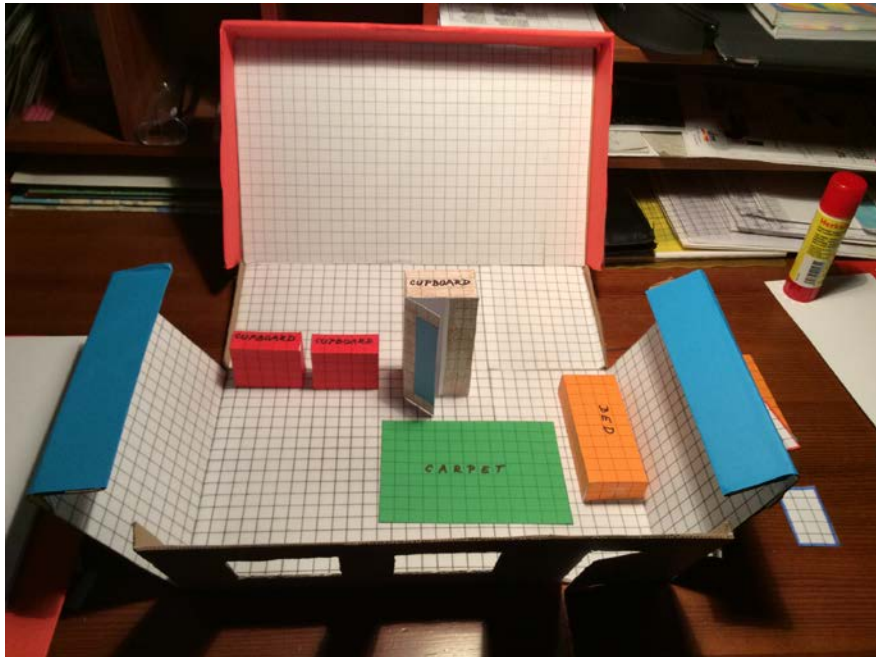# 1) Creating a room from a box

- It´s necessary cut edges of the box
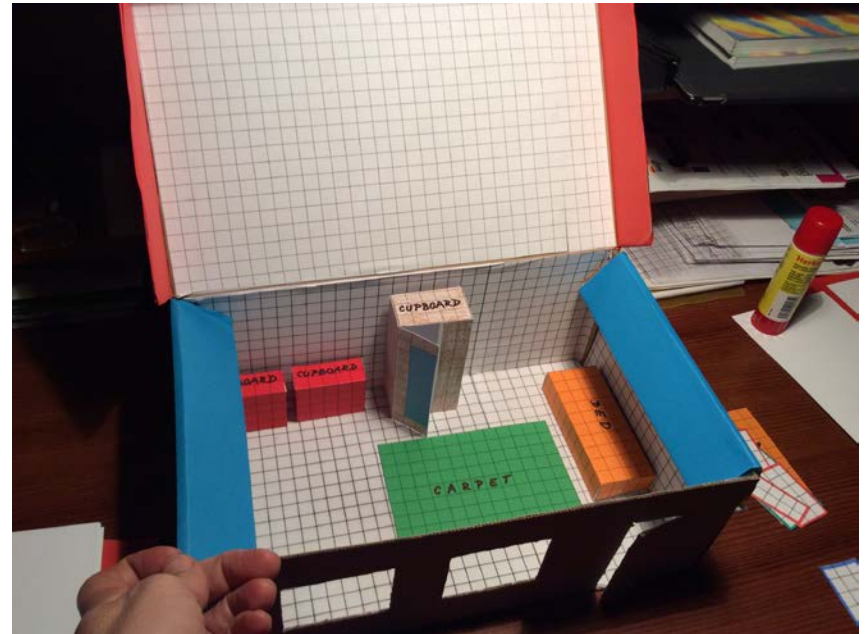

- We can imagine better a surface of the box

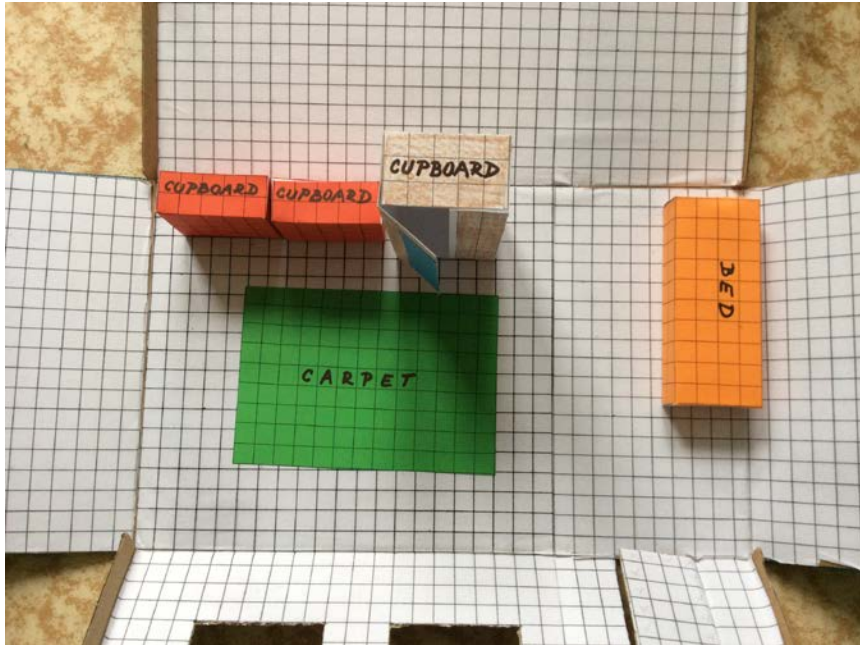# 2) Making equipment
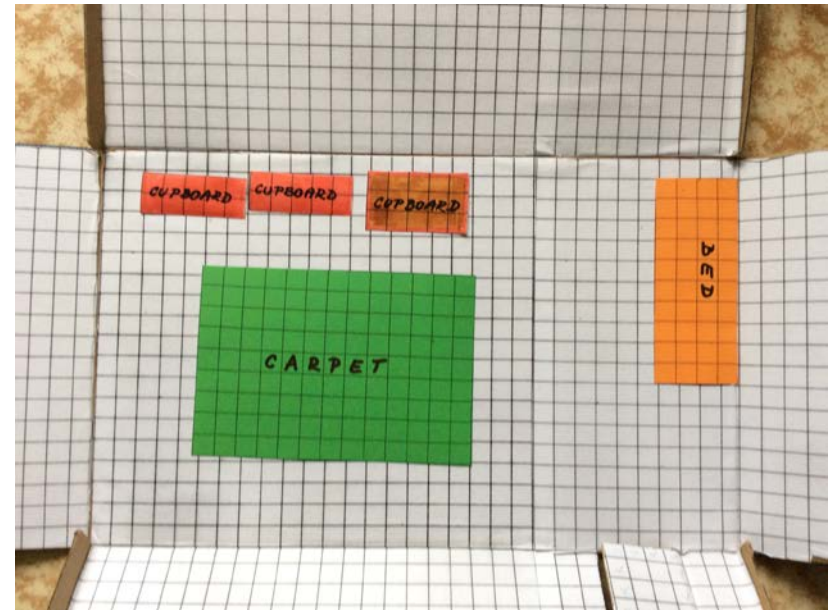
- arrangement of furniture

- view from above

3) creating a plan

- arrangement of furniture

- A plan

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