Grade / Age: 10 – 12 ages
Topic: Geometria, STEAM
Subject area: types of angle
Keywords: acute angle, right angle, obtuse angle, concave angle
Single/ team work: both
Language: (English or Local) English
Duration: 1 hour

Description of the Task:

Draw a house in GeoGebra. Examine what angle (acute angle, right angle, obtuse angle, concave angle) appears on the roof.

What types of angles do you see most often on Hungarian roofs, on a church steeple? What are the roofs of Chinese houses and Alpine houses like?

You can check out roof types here The Top Roof Build Styles And Their Pros And Cons - K&P Roofing, Siding, & Home Improvement (kproofing.com)

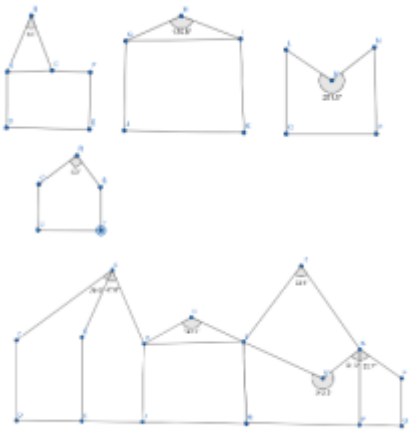
Today's engineers are aided by computers to design houses. Design four types of roofs: you can have an acute-angle roof, a right-angle roof, an obtuse - angle roof, and a concave roof! Let the walls of your building stand up!

What is the angle of a pitched/square/vacant/pitched/concave roof? Which is the steepest roof? In what kind of weather is a pitched roof useful?

Design a castle with at least two different roof angles! Make true statements about each other's castles!

Solutions of the Task:

We can make a rather dry subject, like learning about the different types of angles, more interesting and colourful, and develop many other competences.
The GeoGebra file below is interactive, the angle of the roof can be changed by moving the point D.
https://www.geogebra.org/classic/x8srrre8



Prior knowledge:

Knowledge of angle types

Comments:

Skills and competences to be developed: oral and written communication of information, spatial reasoning, use of mathematical symbols, understanding of mathematical problem representation, use of computer - GeoGebra, technological competence, problem solving.

Connection to other subjects/topics/areas:

art, architecture, IT