

Geometry, scales

In architecture, pentagons are rarely used but there are two examples: one in the United States (Virginia), the other one in China (Shangāi) which is an exact replica.

Pentagon (Virginia, USA) - Ministry of Defense Headquarters:



Pentagon (Shangāi, China) - Shopping center:



Find two mathematical questions related to this particular shape and photos, then answers.

Give the main steps to solve these questions.

*Hint: For the US and China, each side is 281 m long.
One FIFA football pitch has an area of 7,140 m².*