

Maximizing Area

The city has decided that they will be building a new rectangular-shaped community center. It has found a vacant piece of land that is 45.3 m wide maximum. They could purchase less if they prefer. They haven't decided on the depth of the building yet. However, they know that the total area cannot exceed 2,000 square meters. Area is the length \times width. For example, we could suggest that the dimensions are 5m \times 10m but that wouldn't be large enough or really take up the allotted space.

What are some possible dimensions of this new community center? What would be the best use of space and create the maximum area?