Rectangle Optimization: Maximize Area and Minimize Perimeter

Original tasks 1, 2 / independent work

Task 1

A rectangle has a fixed perimeter of 20 meters. Find the dimensions that maximize area and state the maximum area.

Task 2

A rectangle must have an area of 36 square centimeters. Find the dimensions that minimize perimeter and state the minimum perimeter.

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Original tasks 3, 4 / independent work

Task 3

A rectangular garden uses a wall as one side and 30 meters of fencing for the other three sides. Find the dimensions that maximize area and state the maximum area.

Task 4

A rectangle has a perimeter of 16 meters. Find the dimensions that maximize area and state the maximum area.