Main Ideas

Here are the main points that are addressed in the video. Please read these and think about them as you watch.

- When doing optimization problems it is important to distinguish between measurable quantities that vary and quantities that do not vary, often labeling those measurable quantities that vary with variable names.
- Identify the quantity to be optimized (such as area), any formula related to this quantity (such as $A = lw$) and any constraints (the perimeter is 300). When needed, use the constraints to eliminate a variable in the formula, rewriting the formula as a function in terms of only one variable.
- Candidates for maximum and minimum values occur at critical points and endpoints (when appropriate).
- Use a derivative test to verify if a candidate indeed yields a maximum or minimum value.

Learning outcomes:
Author(s):