Prism Pops

By: Kameron Konopasek, Makayla Herbert, and Alexis Brandau

Have you ever wanted to redesign the soda can?

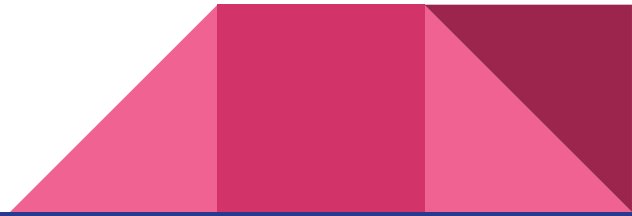
In this lab you are going to:

- Choose any 3D shape and material that you wish to work with (Each shape can only be used per one group)
- Test your shape and material to plan a marketing campaign that will maximize profit
- Figure out the best way to make a soda can using optimizational skills!

Using Optimization to Maximize Profit

As discussed in prior classes, these are the steps for solving optimization problems:

1. Make a sketch. Determine unknown quantities and domain.
2. Write your maximization equation.
3. Write secondary equations.
4. Take first derivative and find critical numbers
5. Take second derivative and find relative extrema
6. Sub in and find desired quantities.



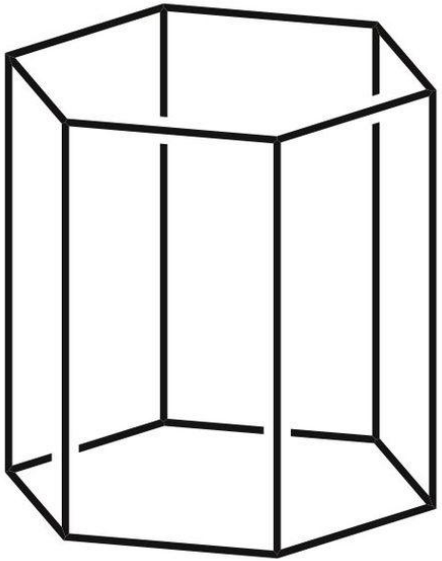
Step 1: Research

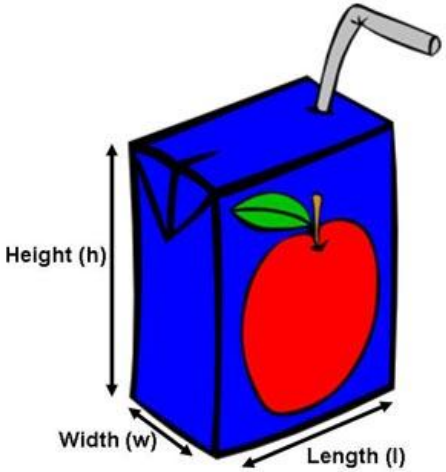
In depth study on:

- Which material you feel would have the biggest marketing affect and cost efficiency.
- Costs per square inch of material
- Proportion - How many oz will your can be?

Step 2: Build

Build a 3D model/prototype of your can





Step 3: Present

Now you can present your 3D model explaining why you chose the given shape and material, and argue your reasoning behind why your shape/material either helps maximize profit, or does not.