Math Requirements for Shoe Project:

* Deconstruct the shoe into familiar shapes (e.g. squares, rectangles, triangles, circles, etc…) in order to find the surface area of all materials. Draw the pieces of your deconstructed shoe to scale (i.e. shoe specs). Find the surface area of each piece and add them together to calculate the total surface area of the shoes.
* Choose the materials needed to create your shoe, find the price of those materials (per square inch or centimeter) and calculate the cost of materials for a pair of shoes.
* Create a linear equation (y = mx +b) where ‘m’ is the cost of a single pair of shoes, ‘x’ is the number of shoes you intend to produce, ‘b’ is the cost of buying a factory and paying workers (i.e. fixed cost), and ‘y’ is the total cost to produce your shoes.
* You will be given a fictitious budget of $1,000,000 ( y= 1,000,000) for one year of production. If your fixed cost is $200,000 for one year, how many pairs of shoes can you afford to produce the first year?
* If you sell your shoes for $100 a pair, how much of a profit (or loss) will your shoe company make during the first year? What if you sold the shoes for $50?
* Decide on a final price for your pair of shoes. Provide mathematically sound reasoning for your choice.

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