E1-12: Statistical study of economic consumption of coconuts

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This paper is in 2 parts. In the first part an attempt is made to find a solution to the problem of deciding which size of coconut is the cheapest to buy; sizes considered being small, medium and large. A random sample of 100 coconuts was considered. Measurements on the principal axes were made onsidering the shape of coconut shell as ellipsoid as a starting point.

It was found by regression analysis that the amount of coconut flesh is proportional to $R^{1.5}$ or $R\sqrt{R}$ approx. where R is the external radius of coconut shell when approximated by spherical shape. Corresponding to the current prices of different sized coconuts, it was revealed that the cheapest is the largest size coconut.

In the second part, optimal extraction of coconut milk was studied. It was found that using a blender gave almost double the amount as against traditional and labour consuming manual extraction for a given thickness (density). Thus, extracting by machine could halve the domestic consumption of coconuts.