Dido of Carthage, Grazing Sheep and Geometric Inequalities

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Abstract

With only a mile of fence available, how should I shape my pasture to ensure my sheep have as much grass to graze from as possible? This thousand years old question has an intuitive answer, but proving it turns out to be a tricky problem. In this accessible talk, I will prove the solution to this problem, known in math as the "isoperimetric inequality," and discuss a few related mathematical curiosities.