

Factorizing Polynomials Part 1

Rasmus Söderhielm

January 2022

Problems

A A basic geometric proof

Let α , β , γ , δ and ϵ be the angles of a pentagon whose vertices are arranged into any arbitrary star like shape. Let θ be the sum of the these angles. Is θ constant, and if it's not, then why?

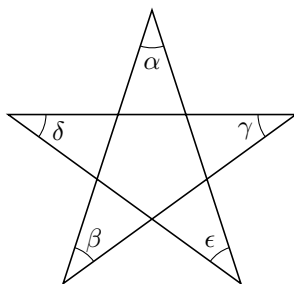


Figure 1: The aforementioned pentagon whose sum of angles is sought after.

Solution

Let's begin by imaging the angles created by the points of intersection of our star's sides and the pentagon formed by these points of intersection. We will call these angles a_1 and a_2 for a through e , with a_1 defined as the exterior angle and a_2 defined as the interior angle of the pentagon.