Al-Jayyani Encyclopedia Article

Al-Jayyani

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Al-Jayyani

989-after 1079

Arab mathematician and astronomer who expounded on Book V of Euclid's (c. 325-c. 250 B.C.) *Elements* and wrote the first treatise on spherical trigonometry. Al-Jayyani spent much of his career in the town of Jaén, capital of the Moorish principality called Jayyan; hence his name. In his *On Ratio,* he discussed what he identified as four types of geometrical magnitude outlined by Euclid—line, surface, angle, and solid—and added to these a fifth, number. *The Book of Unknown Arcs of a Sphere* approached the subject of spherical trigonometry, and provided formulas for spherical triangles. Al-Jayyani's writings would have a profound impact on European mathematics in general, and on the work of Regiomontanus (1436-1476) in particular.