

An overview of Ancient Indian Mathematics and Astronomy

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Abstract

The roots of Indian mathematics and astronomy lie in the formation of the very first calendar. This was needed when man evolved to an agrarian lifestyle from a hunter-gatherer lifestyle. The high drama in the heavens provided a ready made calendar cum clock. However computations were needed to refine the calendar. In the process mathematical techniques evolved. This describes the earliest phase of Indian mathematics from about 10,000 BC till about 1000 BC. Thereafter the phase which is referred to as Siddhantic or model-based astronomy began with its own mathematical roots, all of which culminated in calculations involving differential calculus and trigonometry. There followed a period of continuous decline due to foreign invasions, even though there were spurts of activity here and there, particularly what is called the Kerala school of mathematics around the 16th century. A shining example and remnant of this vast mathematical empire is Srinivasa Ramanajum who lived in the 20th century.