1014-51-456   **Henk J.M. Bos*** (`bos@math.uu.nl`), Department of Mathematics, Utrecht University, Postbox 80.010, NL-3508 TA Utrecht, Netherlands. *Descartes, the Princess Elisabeth, and The Problem of Apollonius: The dangers of Underestimating, A Geometrical Problem.*

In 1643 René Descartes met the Princess Elisabeth of Bohemia. Elisabeth showed interest in his new method of using algebra in solving geometrical problems. She had been taught some algebra and Descartes suggested that she should try to solve Apollonius' problem. That problem is:

Given (the centres and the radii of) three circles in the plane;
Find (the centre and the radius of) a circle which touches each of the three given circles.

She tried hard and gave up. So Descartes had to show her how it could be done. That was not easy. (Received September 16, 2005)