

Math History for Precalculus

Michel Rolle

1. When did Michel Rolle live? *1652–1719*
2. Where was he from? *France (Ambert)*
3. State the theorem named after him. *Rolle's Theorem: if (x) is differentiable on (a, b) , continuous on $[a, b]$, and $f(a) = 0 = f(b)$, then there is a point c between a and b so that $f'(c) = 0$*
4. In which work was his theorem published? *Méthode pour résoudre les égalitéz*
5. When was it published? *1691*
6. Rolle questioned the assumptions made by l'Hospital for calculus. State the two assumptions made in l'Hospital's textbook on differential calculus (review previous activity if necessary). *1) Two quantities that differ infinitesimally are equal. 2) A curve is made of infinitely small (straight) segments.*
7. Who gave an alternative explanation that satisfied Rolle? *Pierre Varignon (1654–1722)*
8. What other area of mathematics was employing questionable methods in Rolle's time? *Analytic geometry used methods that ignored the possibility of extraneous solutions.*
9. In his best-known work, Rolle addressed this problem. Give the title. *Traité d'algèbre (1690)*
10. What important result did he prove in this process? *There are at most n n th roots of a number.*