

# First Challenge to Mathematicians

Pierre de Fermat

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Propose, if you would like, to Wallis and other English mathematicians, the following numerical questions:

1. Find a cube, which, when added to the sum of its aliquot parts, makes a cube.
2. For example,  $343 = 7^3$ . The aliquot parts of this number are: 1, 7, 49. If we add 343 to their sum, we have  $400 = 20^2$ . Find another cube having this same property.
3. Find also a square number which, when added to the sum of its aliquot parts, makes a cube.

I await the solution of these problems. If they be not furnished by England, nor by Gallia Belgica nor by Celtic Gallia,<sup>1</sup> then it shall be solved by Gallia Narbonensis,<sup>2</sup> which will offer it to Sir Digby and and dedicate it to him as a testimony of an emerging friendship.

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<sup>1</sup>Aquitaine? It is *Gaule Celtique* in Fermat.

<sup>2</sup>This Roman province included Fermat's Toulouse.