

Mathematics and science: the Abel and Nobel Prizes

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Abstract

We will answer the questions: “why is there no Nobel Prize in mathematics” and “how did the Abel Prize get started” as a beginning to a discussion on mathematics and science. This is related to scientific computing, which is often referred to as the third pillar of science, complementing experiments and theory. It has also enabled large parts of sophisticated mathematics that previously was not regarded as having applied value to impact science and engineering. We will give some elementary classical examples and see how modern versions of these examples engage deeper mathematics and enhance science. Finally, we will remark on the future of mathematics and scientific theory in the world of big data and machine learning.