

Diophantine equations at school – description of an experiment

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The use of information technologies at classes becomes a common standard. The expediency of their use is, however, continuously the subject of a number of investigations because it is difficult to set precisely the border between their meaningful and formal usage. At the same time it, however, shows that computer equipment may become, under a good teacher's guidance, a tool of pupils' experimenting and discovering.

In this paper, we describe our research by which we investigated what role a use of computers would play in the 9th grade of elementary school at solving problems that reach above the scope of standard curricula.

In two parallel classes, we gave pupils problems leading to a solution of simple Diophantine equations. In one class, pupils solved the problems only in a "classic" way, in the other class, they could use computers; however, they were not told how to proceed, which software to use, etc.

In both classes, the pupils were supposed to try to find any solution and, eventually, find all solutions. It turned out that in the class where the pupils could use a computer, the obtained results were unequivocally better, and at the same time the computer did not restrict in any way the creativity of pupils.