



## 中学数学中的数形结合思想研究

**【摘要】** 数学知识的本质认识是数学思想，数学思想是数学知识的精髓。数形结合思想是数学思想中特别重要的一支，从小学开始，我们就开始接触这种思想。它贯穿了我们整个数学教育的始末。“数”体现的数量之间的关系，而“形”体现的则是空间形式的体现。“数”中必有“形”，“形”中必有“数”，两者之间既相互独立，又相辅相成，可相互转化。关系紧密，不可分割。数形结合，在一定的程度上推动了中学数学新课程改革的需要，在课堂教学时渗透数形结合思想，能够提高教学效果，发展了学生的思维能力，也有利于提高学生的解题能力。以形助数，在代数问题中构建几何模型，化抽象为具体，使复杂的问题简单化；另一方面，将几何问题变成为代数问题，以数解形，找到几何和代数之间的纽带，用代数思想解决空间形式问题，以获得精确的结论。本文通过分析和归纳展示了数形结合思想在课堂教学和解题当中的应用，所带来优越性和特点，从而证明数形结合思想的重要性。

**【关键词】** 中学数学 数学思想方法 数形结合 研究

## Several of the middle school Mathematics form combining ideas

**【Abstract】** The essential cognition of mathematical knowledge is mathematical thought, and mathematical thought is the essence of mathematical knowledge. The idea of combination of Numbers and shapes is a particularly important branch of mathematical thought. We have been exposed to this idea since primary school. It runs through our entire math education. "Number" embodies the relationship between quantities, while "shape" embodies the spatial form. In "number" there must be "shape", and in "shape" there must be "number", both of which are independent of each other and complement each other and can be transformed into each other. They are inseparable. The combination of number and form promotes the need of the new curriculum reform of middle school mathematics to a certain extent. The combination of number and form can improve the teaching effect, develop students' thinking ability and help improve students' problem-solving ability. In order to simplify the complicated problems, geometric models are constructed in the algebra problems with form and function Numbers. On the other hand, the geometric problem is transformed into an algebraic problem, the form is solved by Numbers, the connection between geometry and algebra is found, and the spatial form problem is solved by algebraic thinking, so as to obtain accurate conclusions. This article through the analysis and the induction has demonstrated the numeral form union thought in the classroom teaching and the problem solving application, brings the superiority and the characteristic, thus proved the numeral form union thought importance.

**【Key Words】** Middle school mathematics Mathematics thoughts and methods Several form combining with An application example Study

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