



Comparing various functions of the divisors of an integer in different residue classes

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Abstract. The main goal of this paper is to investigate some problems related to the distribution of the divisors of a number in different residue classes. We study these questions modulo 3, and use mostly just elementary number theory. In some special cases, we demonstrate how this problem is related to other fields of maths, especially to combinatorics. Since the author is also a secondary school teacher, we use elementary methods that can be discussed in secondary school, mainly within the framework of group study sessions or in special maths classes. We do think that the investigation of these types of questions can motivate children to find their own way to create their own questions, and to get a deeper insight into problem solving by these experimentations.

Key words and phrases: number and sum of divisors, residue classes.

ZDM Subject Classification: F60.

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(Received September, 2016)