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**Ellina Grigorieva\*** (egrigorieva@twu.edu), PO BOX 425262, Denton, TX 76204. *Teaching Methods of Solving Number Theory Problems.*

It is known that students have a hard time when trying to solve math problems involving integers, perhaps due to the fact that they study numbers in elementary school and basically never touch the topic again throughout the entire math curriculum. Many don't find arithmetic problems interesting or of much use in our everyday life since we don't feel that we need to know number theory for such fields as engineering or programming. However, number theory is important, gives us a power over the physical world we live in, and has been studied since the beginning of time. Carl Friedrich Gauss called it {The queen of mathematics}. Solving number theory problems helps us to think as mathematicians. We no longer view math as a disjointed collection of formulas and facts to memorize; instead, we learn to approach abstract problems in a systematic and creative manner. Additionally, we lose any inhibitions and fear of failure from our faulty memories. Solving problems empowers us. Methods presented in this talk are based on the author's own math Olympiad experience and over 25 years of teaching at a university level. (Received August 29, 2017)