1163-97-542 **Gowri Meda*** (medag@oes.edu), 6300 SW Nicol Road, Portland, OR 97223. *High school students loving the proofs of the laws of exponents (for the special case of positive integer exponents): Why this is an important goal and how to accomplish it!* Preliminary report.

How often do math professors in courses for freshmen happily share that *almost all* their students are not only able to successfully recall the laws of exponents but they can also provide the precise proofs? *Not very often* is my guess, based on my 19 years of college level teaching. Instead, we hear college professors complain about students' mistakes on all levels, especially in calculus classes. However, it is possible to send our high school students to college with a strong conceptual understanding of mathematics, including the laws of exponents. My experiences teaching 9th and 10th graders, at an independent school over the last four years, inform me that these young minds are fully capable of exploring the world of mathematics with precise definitions, making conjectures, and understanding and learning rigorous proofs. In this talk, I will discuss how to engage 9th and 10th graders with the proofs of the laws of exponents (for the special case of positive integer exponents) in a way that they will love to present the proofs at any time (no preparation required!). Based on the work of Hung-Hsi Wu, I will also discuss how to use the idea of interpolation of functions to introduce the important exponential function. (Received September 08, 2020)