

### Reference letter for Karla

I have had Karla in three classes, multivariable calculus, topology, and algebraic topology, she also worked with me on her undergraduate thesis. She is a very pleasant and balanced young woman, with a high aptitude for mathematics. Karla's strength lies in her ability to work and absorb mathematics independently. As such she may not be the highest performer in class, preferring to work at her own pace. However she often shows much deeper understanding of basic material than most of the higher performing students. In her undergraduate thesis she clarified the equivalence between Atiyah's original definition of TQFT and the modern definition in terms of monoidal symmetric categories, as well as presented string topology as an example of a TQFT, which is known, but the details are not straightforward, requiring a good understanding of basic algebra and algebraic topology. In addition she studied the work of Thom and Pontryagin on cobordisms. Overall she showed good understanding and passed with distinction. My overall impression is that if she applies herself well, she could be successful in any graduate program in mathematics. As a side remark, we communicate in English and it is good enough at the moment for doing mathematics and basic teaching.

sincerely, Yakov (Yasha) Savelyev, January 2020