Scratchwork: Box-Counting

In this note of [Okounkov-Reshethikhin-Vafa](https://arxiv.org/abs/hep-th/0309208) they show how to q-count plane partitions by using vertex operators:

$$Z = \exp\left[\frac{\chi}{2}\sum_g g_s^{2g-2}\int_{\overline{\mathcal{M}}_g} c_{g-1}^3(\mathcal{H})\right] = \left[\frac{1}{(1-q^n)^n}\right]^{\frac{\chi}{2}}$$

here c_{g-1} is the Chern class of the Hodge bundle of the moduli space of curves of genus g.

References

[1] **The Stacks Project** `https://stacks.math.columbia.edu/tag/0DMJ`

References

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[3] H. Montgomery, R. Vaughan **Multiplicative Number Theory** Cambridge University Press, 2006.

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Elementary Dirichlet Series and Modular Forms Springer, 2007.
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