Problem 7: Non-square Factors

How many of the positive factors of the number 12! are not perfect squares?

As always, show your work, fully explain and justify your answer. A solution mainly obtained by computers or calculators will not be accepted.

Posting Date 4/11/2020. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by noon on 4/25/2020.