

Problem 7: Nested Square Roots

For how many positive integers n is

$$\sqrt{n + \sqrt{n + \sqrt{n + \sqrt{n}}}}$$

an integer?

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 4/12/2019. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by 4 pm on 4/26/2019.