



Problems – 08/11/20205

The solutions to the problems below
will be published on Sunday 08/17/2025

 **Problem 1.** Prove that the following inequality holds for every $x > 0$:

$$\sqrt{x+1} + \sqrt{x+5} \leq 2\sqrt{x+3}.$$

 **Problem 2.** Let M be any point on the altitude AD of triangle ABC . The line parallel to AB passing through M intersects the altitude CF at P . The line parallel to AC passing through M intersects the altitude BE at Q . Prove that the lines PQ and EF are parallel.

Good Luck!

We encourage you to submit your solutions via the website:

[https://mathlovers.eu/submit-solution/!](https://mathlovers.eu/submit-solution/)