



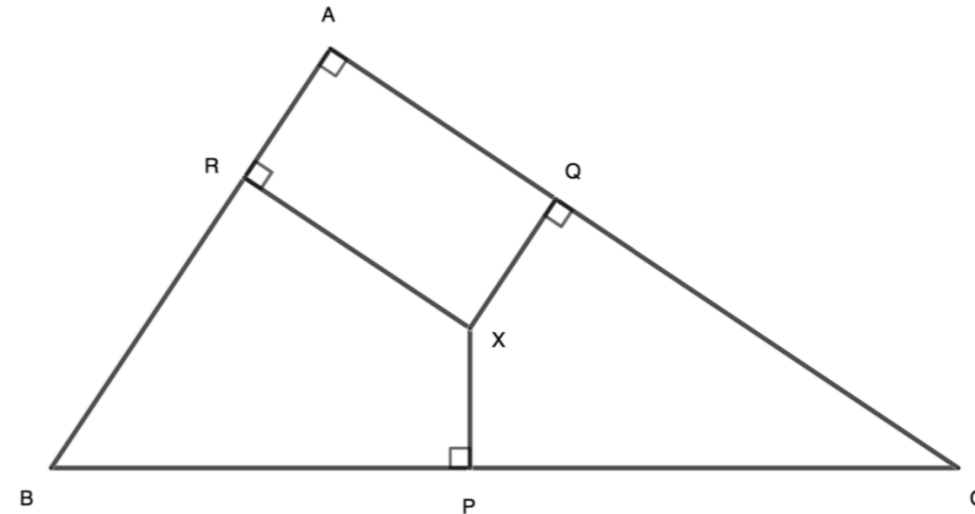
MATH PROBLEM OF THE WEEK

Fall 2021

Problem 4

Let $\triangle ABC$ be a right triangle with $\angle A = 90^\circ$ and X an arbitrary point inside the triangle. Let P , Q , and R be the feet of the perpendicular lines from X to BC , AC , and AB , respectively. Prove that

$$BP^2 + CQ^2 + AR^2 = CP^2 + BR^2 + AQ^2.$$



We welcome solutions from everyone. The undergraduate participant from the NMSU main campus with the most correct solutions at the end of the semester will receive an award of \$500.

Solutions must be mathematically rigorous and originally obtained by the participants.

Deadline: Monday, October 18, 10 am

Send solutions to: mathpotw@nmsu.edu

More information at: <https://math.nmsu.edu/activities/math-problem-of-the-week.html>