

The Monthly Problem Solving Competition–November 2013

Problem A: Move the Point

Consider $\triangle ABC$ where $A = (0, 0)$, $B = (0, 2)$ and $C = (1, 501)$. What is the shortest distance that C can be moved so that $\triangle ABC$ becomes an isosceles triangle with the same area as before the move? Give both the new position of C as well as the distance it moved.

Problem B: Find the limit

Find the value of $\sqrt{1 + 2\sqrt{1 + 3\sqrt{1 + 4\sqrt{1 + 5\sqrt{1 + \dots}}}}}$. Show your work.

NOTE

The winner will get a certificate and will have chance to go to MathFest in Portland, Oregon in August of 2014.

Please submit your solution to Dr. Huiya Yan by the end of November.

hyan@uwlax.edu

1013 Cowley Hall