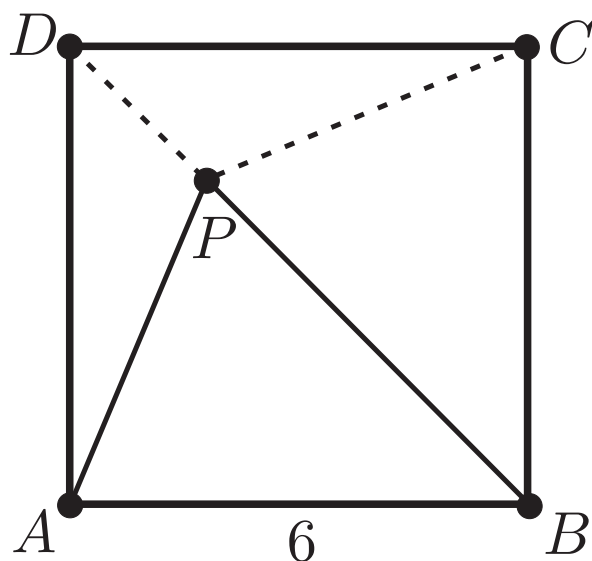


## Problem of the Week

Proposed by Bernardo Ábrego and Silvia Fernández

October 17-24



Consider a square  $ABCD$  whose side length is 6.  $P$  is a point inside the square with the property that

$$PA^2 + PB^2 = 68.$$

Prove that

$$20 \leq PC^2 + PD^2 < 44.$$

This contest is sponsored by the Mathematics Department. Open to all CSUN students.

Winner gets \$5 or an equivalent prize. All complete and correct solutions get a certificate.

Type and send your solution before October 24th, 9:00PM to [bernardo.abrego@csun.edu](mailto:bernardo.abrego@csun.edu).

All steps of the solution must be clearly justified.

For rules, winners, solutions, and more information visit: [www.csun.edu/math/probweek](http://www.csun.edu/math/probweek)