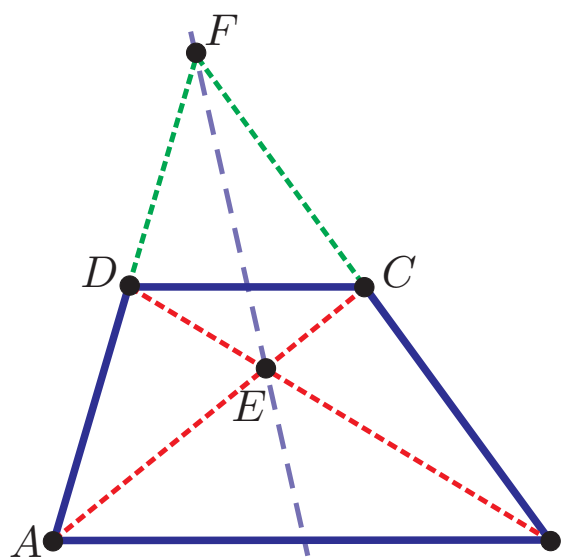


## Problem of the Week

Proposed by Bernardo Ábrego and Silvia Fernández

October 23-30



Let  $ABCD$  be a trapezoid with  $\overline{AB}$  parallel to  $\overline{CD}$ , and  $AB > CD$ . Let  $E$  be the intersection of the lines  $AC$  and  $BD$ , and  $F$  the intersection of the lines  $AD$  and  $BC$ .

Prove that the line passing through  $E$  and  $F$  also passes through the midpoints of  $\overline{AB}$  and  $\overline{CD}$ .

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 30th, 9:00PM to [silvia.fernandez@csun.edu](mailto:silvia.fernandez@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)