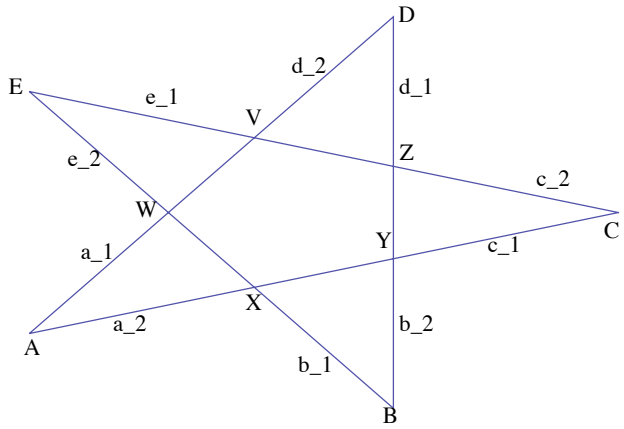
LEWIS AND CLARK COLLEGE
Department of Mathematical Sciences

PUZZLE OF THE WEEK (3/10 - 3/16)

Consider a pentagram in the Euclidean plane, and label its vertices and edges in the following manner:



Here a_1 denotes the length of the line segment AW, a_2 denotes the length of the line segment AX, b_1 corresponds to BX, etc. Prove that

$$a_1b_1c_1d_1e_1 = a_2b_2c_2d_2e_2.$$

Congratulations to Jeffrey Cruttenden (junior) for presenting an elegant and rigorous solution of the last week's puzzle! Less rigorous but mostly correct solutions were also presented by Kathleen Daly (freshman), Joshua Dunham (freshman) and Alyssa Kent (junior). Congratulations to all!!

Many thanks to Prof. Roger Nelsen for proposing this week's puzzle!! Solvers should include their name, address, and status at the College. Solutions can be mailed to MSC 110 via campus mail or can be placed in *Iva Stavrov's* mailbox in the Math Department Office. Solutions should be received by 11:00 am on Tuesday March 16th, 2010.