

**University of Colorado**  
**Department of Mathematics**  
**Problem of the Month**  
**November 2013**

Assume that a circle passing through the origin intersects the hyperbola  $xy = 1$  at points  $A_1, A_2, A_3$  and  $A_4$ . Show that sum of slopes of the six lines  $A_iA_j, i < j$ , is 0.