The problems are available at `http://jan.ucc.nau.edu/ns46/pow`. Paper copies are provided outside the Math Office: Room 107, Adel Mathematics Building. Contact Nándor Sieben (Adel 175) if you have any questions about the problems. Please submit your solutions to the Math Office by Monday 10/26/09. Winning solutions and a summary of scores are at the POTW bulletin board in the Adel Math Building.

Research problems with unknown solutions are marked by (!). These problems might be hard or might be easy, we just do not know. A conjecture or a result about a special case or simply an idea about a possible solution method can be very valuable.

Slippery Slope

Let $f(x) = x^2$ and let P be a point in the plane. Let suppose that we can draw two tangent lines to the graph of the function f through the point P. Let Q and R be the points where these tangent lines touch the graph of f. What are the possible locations for P if we know that the slope of the line through Q and R is 1?