

Week 10 (11/18/02)

**Product of lengths**

Inscribe a regular  $N$ -gon in a circle of radius 1. Draw the  $N - 1$  segments connecting a given vertex to the  $N - 1$  other vertices. Show that the product of the lengths of these  $N - 1$  segments equals  $N$ . The figure below shows the case where  $N = 10$ ; the product of the lengths of the 9 segments is 10.

