

1077-I1-2658

Marian F Anton* (marianfanton9@gmail.com). *A modeling project on sensor networks*. Preliminary report.

Imagine that a bunch of sensors are spread inside a forest, for fire protection purposes, and each sensor covers a small area. Unfortunately we have no idea where these sensors land, but we know which sensors are near each other and which are near the boundary of the forest. Can we determine if the sensors cover the forest? I will answer this question using only high school geometry and indicate how this solution introduces students to combinatorial topology, linear algebra, and computer science. (Received September 22, 2011)