

# GRAPH THEORY (NETWORKS)

## IN CLASS ACTIVITY

Imagine the vertices in each of the three situations below (triangular, square and pentagonal) to represent objects that need to be connected by wires. In each case, what is the least amount of wire needed to accomplish this? Use a ruler with metric measure so that you can determine this in millimeters for greatest accuracy. Try different configurations of wiring, measure each, and record the length in millimeters. Some questions to think about are the following. Does there need to be a path or circuit involved in order to connect these items and have electricity flowing to each? Might we be able to “patch” the wires together somewhere to help us use less wire? (If so, this would basically mean adding another vertex. Would that help shorten the total distance?)

