Graph Theory

WDRP - Polyhedra

1. Give examples for the following descriptions

   a) A connected graph with 9 vertices where exactly two vertices has degree 4.

   b) A tree with 7 vertices and maximum degree 2.

   c) A disconnected graph where each component is a tree.

2. How many edges are there in a tree with 5 vertices? 8 vertices? For any number of vertices?

3. If a graph has 7 vertices each with degree 3, how many edges are there in the graph? What about for any number of vertices? For any degree?

4. Does a disconnected graph with 8 vertices exist where the minimum degree is 3 and the maximum degree is 5?

Challenge Problems

5. How many possible edges are there in a connected graph with 4 vertices? What about for any number of vertices?

6. How many possible connected graphs are there with 4 vertices? What about for any number of vertices?