This miniproject asks you to investigate certain graphs.
Do the following problems.

(a) Draw a simple graph with five vertices and six edges.

(b) Draw a simple graph with six vertices and ten edges.

(c) Draw a simple graph with four vertices and three edges.

(d) Each of the graphs that you drew in the previous three parts have at least two vertices with the same degree. Find such a pair of vertices in each of your three graphs. State both the vertices and their degree.

(e) Prove: In a simple graph with at least two vertices, there exist at least two vertices with the same degree.

Show all Work for Credit
MSUM Mission: *MSUM is a caring community promising all students the opportunity to discover their passions, the rigor to develop intellectually and the versatility to shape a changing world.*