

Graph Basics

Intro to Web Science

10 points

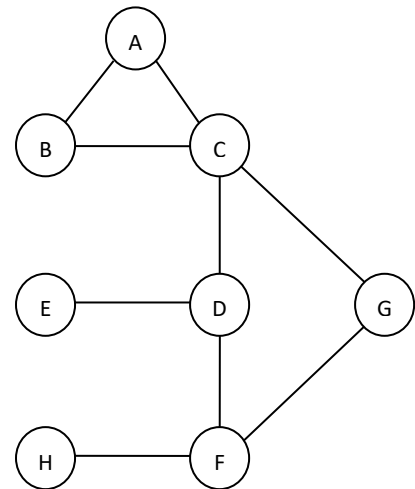
Name _____

Use the graph on the right to answer questions below. You may use NetworkX to confirm your answers, but you must **set up all the computations** to show how you could get the correct answer without Python.

1. (1 pt) Is the graph directed or undirected? Weighted or unweighted?

2. (2 pts) Write the adjacency list needed to produce the graph.

3. (2 pts) Write the adjacency matrix needed to produce the graph.



4. (1 pt) What is the mean number of friends of C's friends?

5. (1 pt) What is the normalized degree centrality for node F?

6. (1 pt) What is the betweenness centrality for node F?

7. (1 pt) What nodes have a betweenness centrality of 0?

8. (1 pt) What is the graph's density?