

Quiz Five

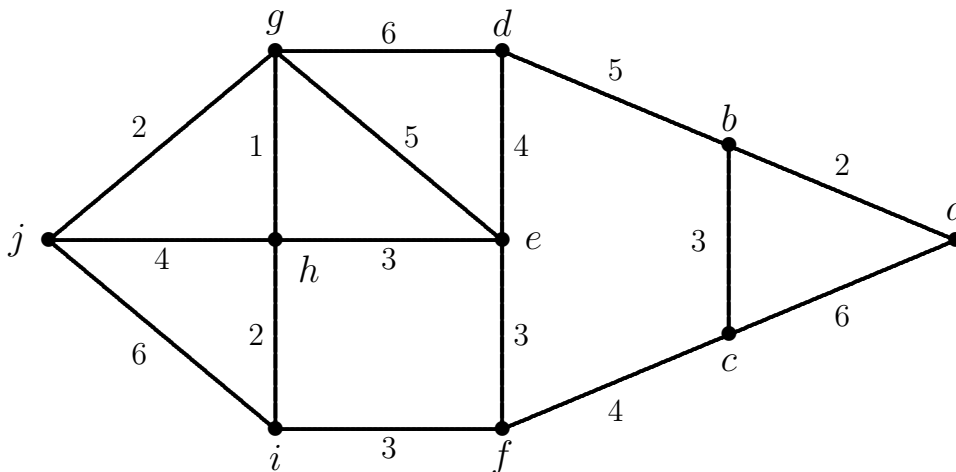
No notes. No calculators.

Write clearly and explain your reasoning.

Student Number:

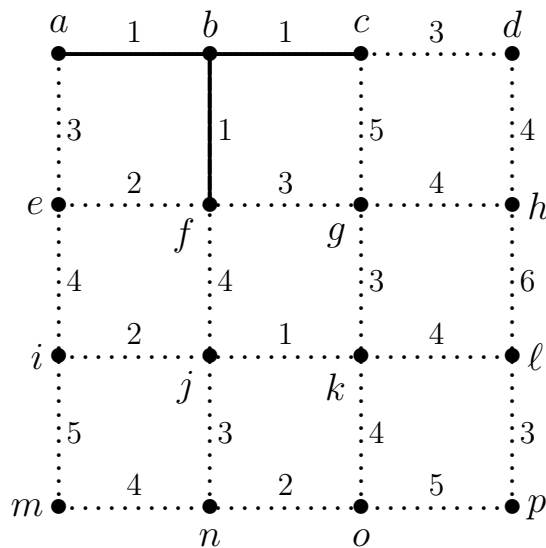
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- 1 (8 points) Find the shortest path from vertex a to vertex j using the techniques of Tucker's Section 4.1.



You *must* use the Shortest Path Algorithm of Section 4.1!

- 2 (12 points) Here is a graph G . (The graph is both the solid edges *and* the dotted edges.) The set of solid edges is the beginning of a minimal spanning tree. (It is the same start using *both* Prim's algorithm and Kruskal's algorithm.)



- (a) (2 points) Using Prim's algorithm, what would be the next edge added to the minimal spanning tree?
- (b) (2 points) Using Kruskal's algorithm, what would be the next edge added to the minimal spanning tree?
- (c) (8 points) Complete the minimal spanning tree using either algorithm. That is, list the remaining edges that should be added to the above tree in order to turn it into a minimal spanning tree. *Please list the edges in the order in which they will be added!*