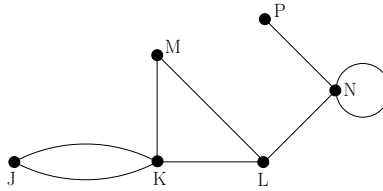


Homework 4

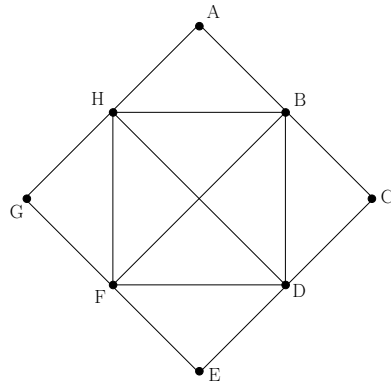
Math 118 section 004

Due: Friday, February 29th

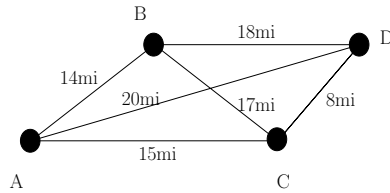
1. For the graph below, find a Hamilton path. Write your answer as an ordered list of vertices.



2. For the graph below, find a Hamilton circuit. Write your answer as an ordered list of vertices.



3. A high school student is applying to 4 colleges in North Carolina. They are in cities: Asheville, Boone, Chapel Hill, and Durham. The graph below shows the (fictitious) distances between the cities. The student lives in Chapel Hill. He wants to start in Chapel Hill, and visit the other 3 cities exactly once and driving the shortest possible distance.



- Apply the repetitive nearest neighbour algorithm to the graph to try to find the cheapest route (Hamilton circuit) between cities.
- Apply the brute force algorithm to the graph to find the cheapest route (Hamilton circuit) between cities.
- What was the relative error for the circuit you found in part a)?