Quiz 2
Friday, Feb. 2.

NAME ——————————————————————————————

1. Consider the graph below (represented twice to make it easier to draw hamiltonian circuits, see questions (b) and (c)).
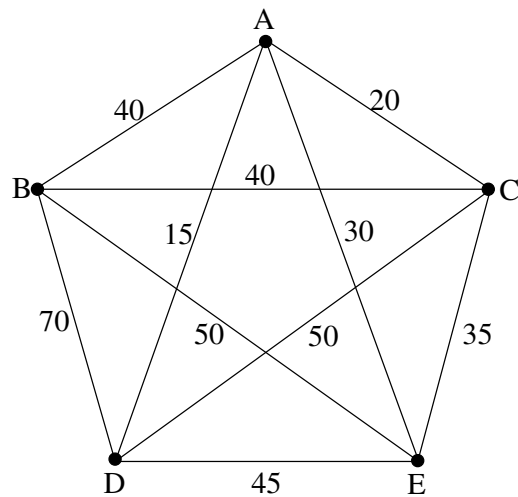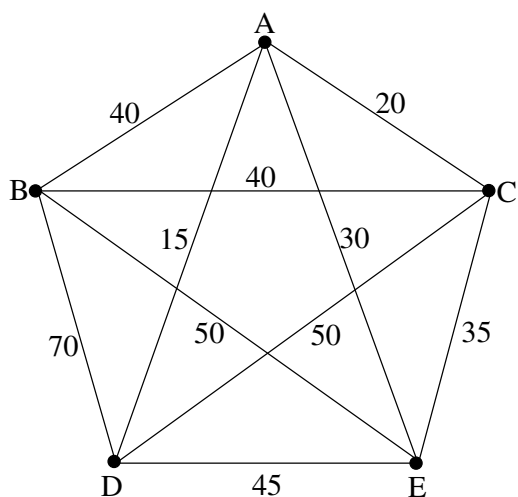

(a) Is the path ABECDBA a Hamiltonian circuit?

(b) Apply the nearest-neighbor algorithm starting at C; represent the hamiltonian circuit obtained on the graph on the left above (use wiggly edges). What is the cost of the circuit you obtain?

(c) Apply the sorted-edges algorithm to this graph; use the graph on the right to represent it. What is the cost of the circuit you obtain?
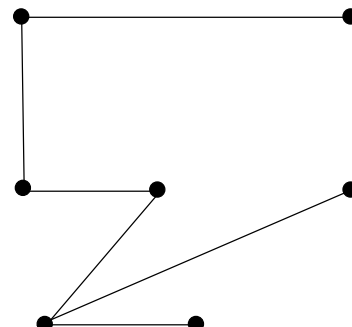
2. For each of the graphs below, state whether it is a tree or not.
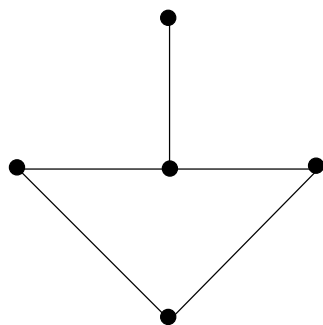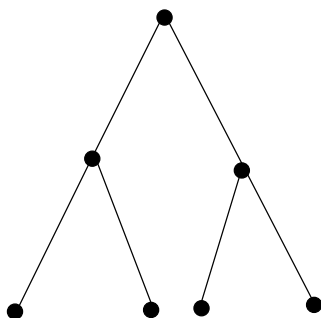
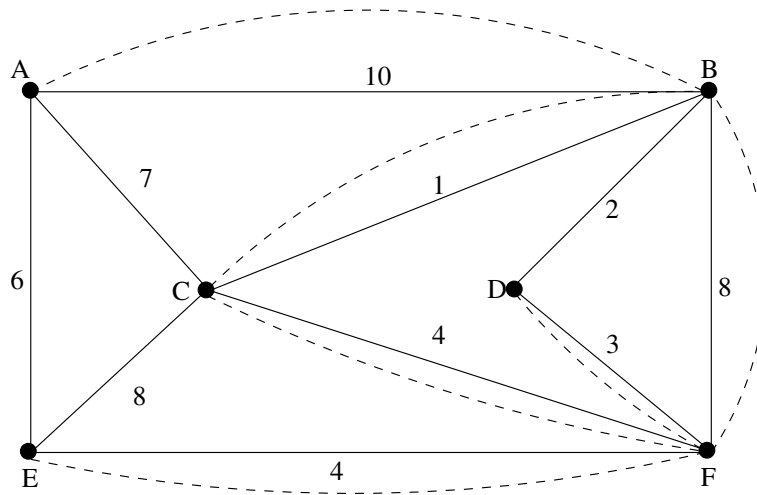I   II   III

3. A local cafe offers 3 different entrees, 10 different vegetables and 4 different salads. A Blue Plate Special includes an entree, a vegetable, and a salad. How many possible Blue Plate Specials are there?

4. In the picture below, the dotted lines represent a student's attempt at finding a spanning tree for the graph.

(a) Explain why the student's answer is incorrect.

(b) Is it possible to delete one dotted line to make the answer correct? If so, which line is it best to delete?

5. Apply Kruskal's algorithm to the graph below. WHat is the cost of a minimal cost-spanning tree?