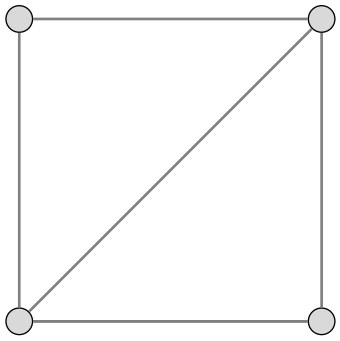
EULERIAN TRAIL

TEXT: 12.5, 12.6

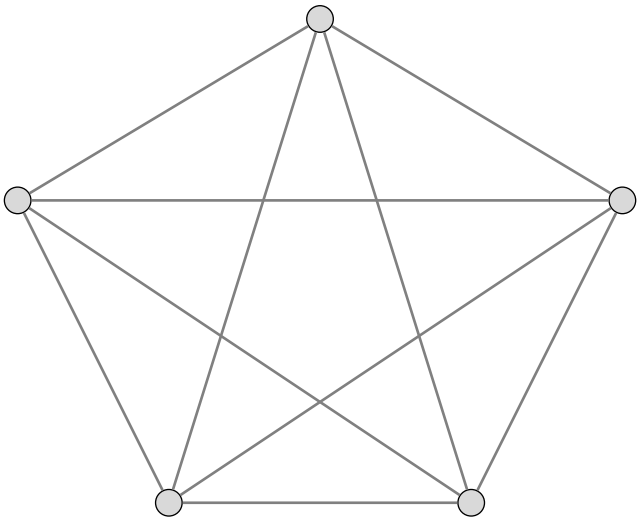
LAST NAME	FIRST NAME	DATE

1 (12 points)**.** For each of the shown graphs, determine whether there is an Eulerian circuit or an Eulerian trail. If either one exists, draw it clearly. If it does not, explain why.

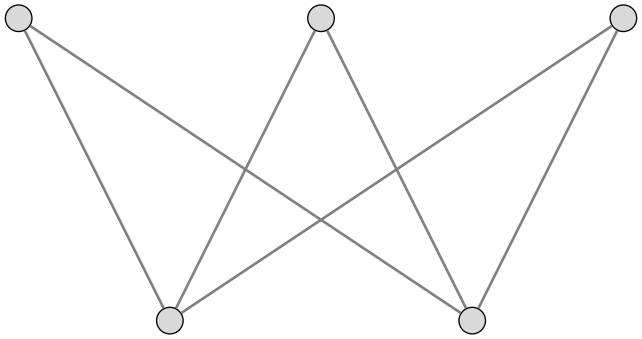
(a)



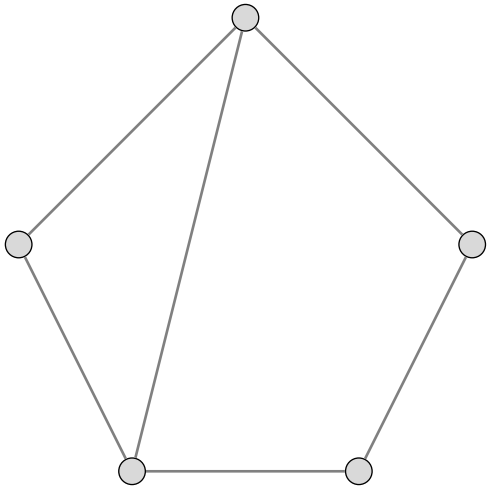
(b)



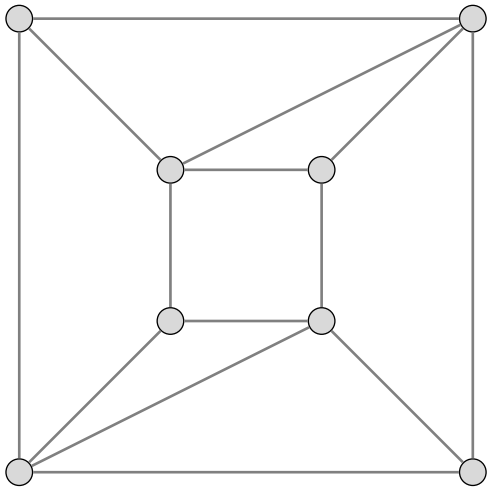
(c)



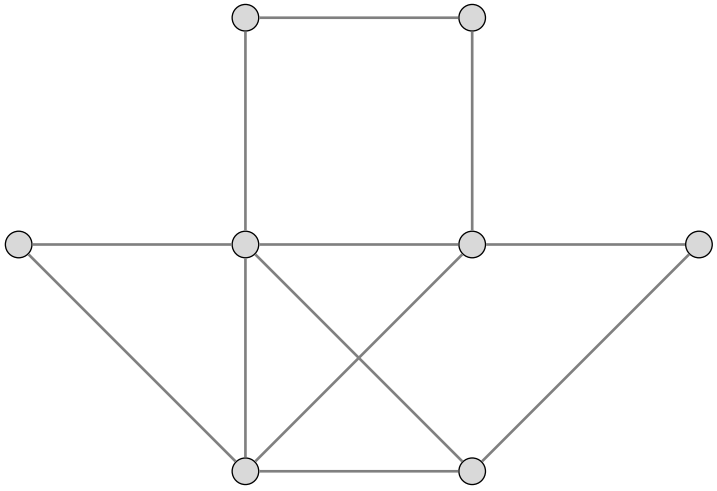
(d)



(e)



(f)



2 (5 points)**.** Does the given graph have an Eulerian circuit, an Eulerian trail, or neither? In each case, explain your reasoning.

(a) K_{28}

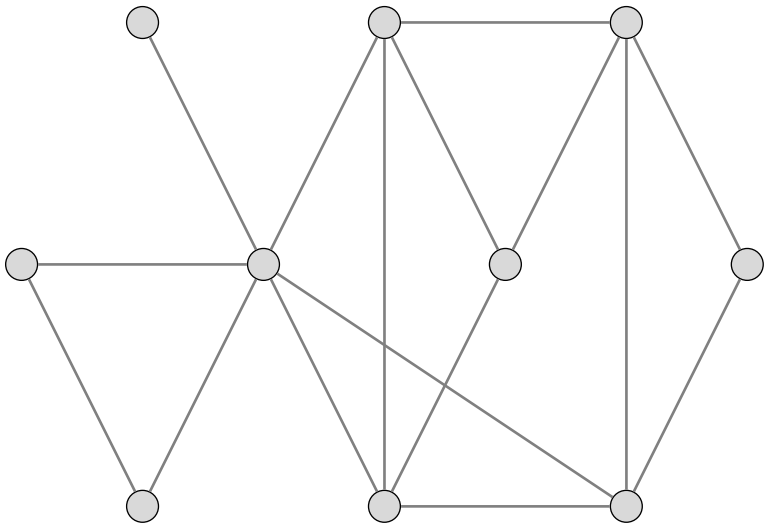
(b) $K_{2,17}$

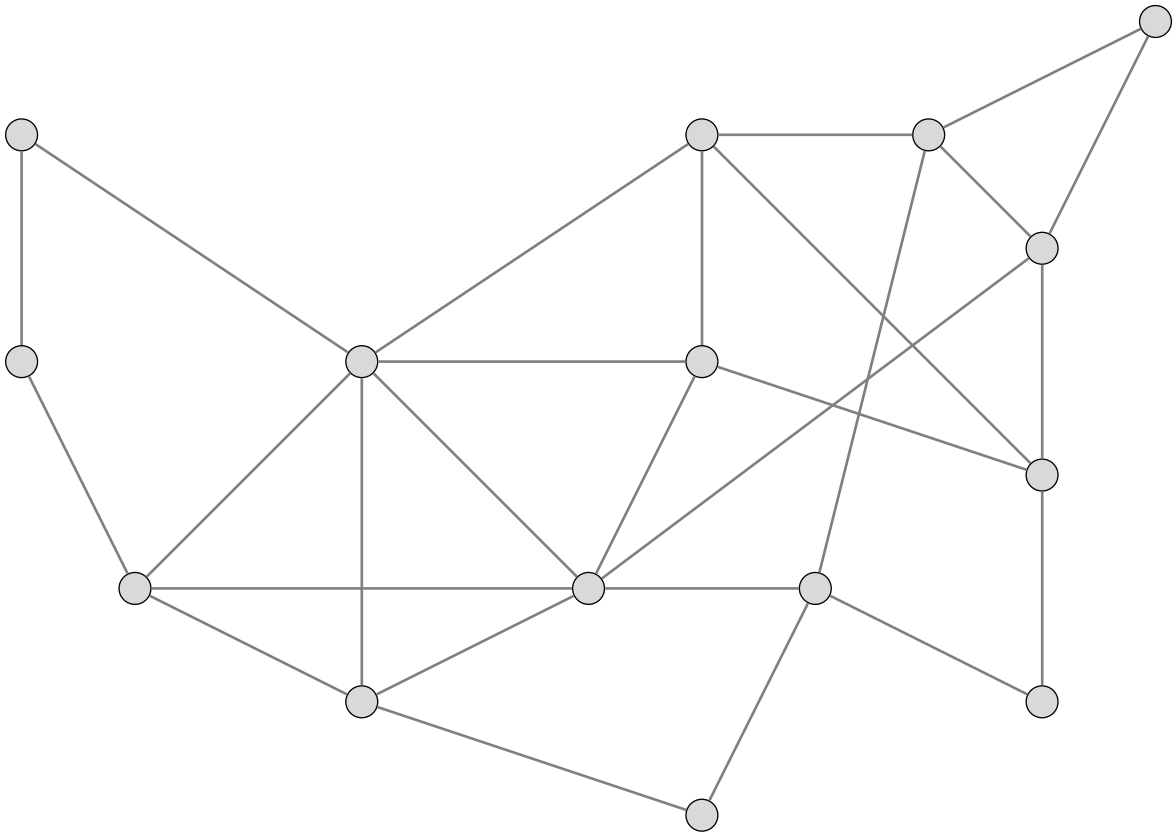
(c) K_{2025}

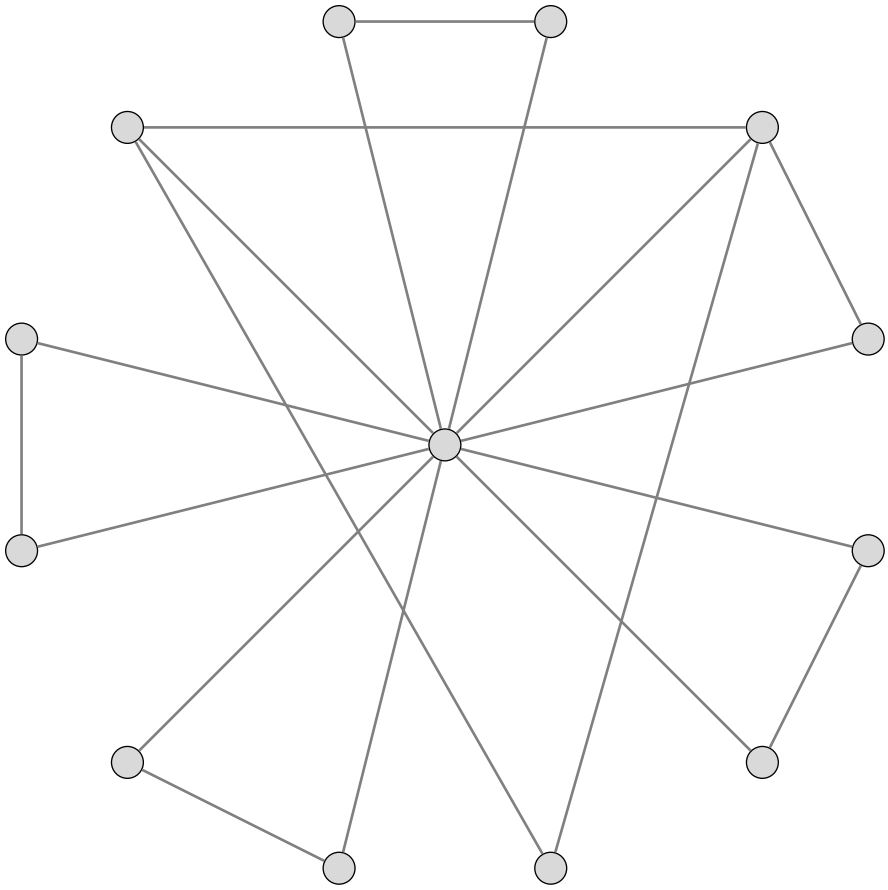
(d) $K_{7,42}$

(e) $K_{6,12}$

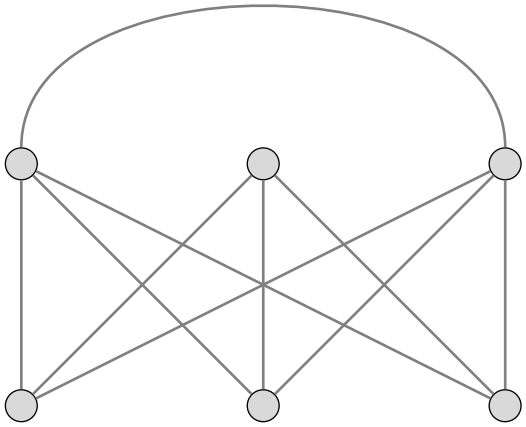
3. For each of the shown graphs, determine whether there is an Eulerian circuit or an Eulerian trail. If either one exists, draw it clearly. If it does not, explain why.







Add one edge to the graph so that you can find an Eulerian trail:



4. Draw the smallest connected graph that has no Eulerian trail or cycle.

5. Suppose that T is a tree that has an Eulerian trail. What is the maximum degree of a vertex in the graph T? Explain.