

(a) List the vertices (alphabetically):

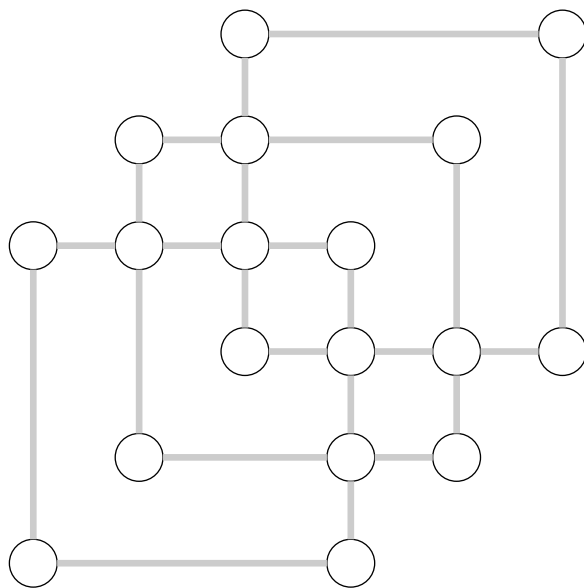
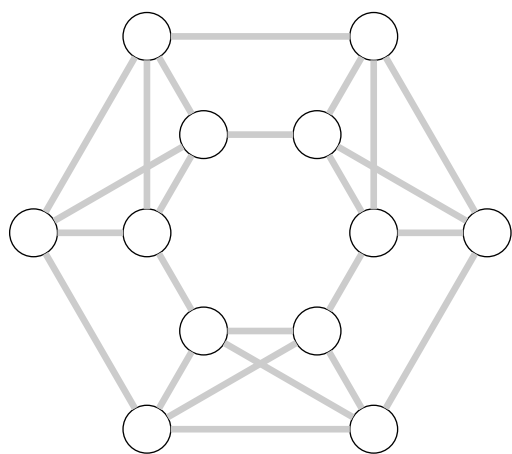
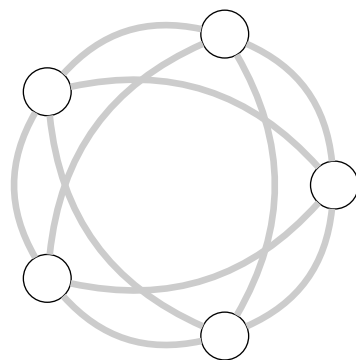
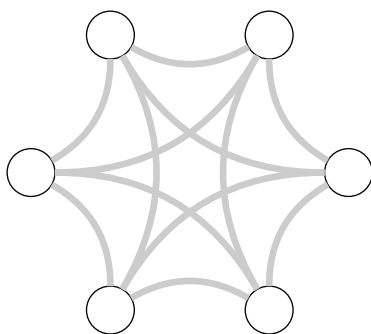
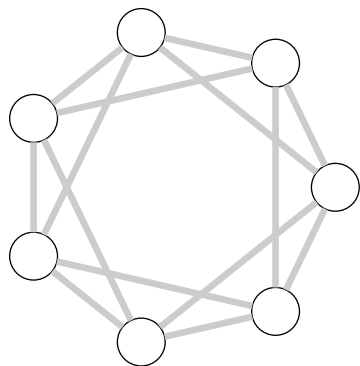
(b) List the edges (alphabetically):

(c) What are the degrees of the vertices?

(d) Does this graph have an Euler circuit, an Euler path, both, or neither? Why?

1. Construct a graph with vertices of degree 1, 1, 1 or explain why no such graph exists.
  
  
  
  
  
  
  
  
  
  
2. Construct a graph with vertices of degree 2, 2, 2, 2, 2 or explain why no such graph exists.
  
  
  
  
  
  
  
  
  
  
3. Construct a graph with vertices of degree 3, 3, 3, 3 or explain why no such graph exists.
  
  
  
  
  
  
  
  
  
  
4. Construct a graph with vertices of degree 4, 4, 4, 4, 4, 4, 4, 4, 4 (that is nine 4s) or explain why no such graph exists.
  
  
  
  
  
  
  
  
  
  
5. Construct a graph with vertices of degree 1, 2, 2, 2, 3, 4 or explain why no such graph exists.

1. For each graph label the edges  $1, 2, 3, \dots$  in order of an Euler circuit or Euler path.



Label the degrees of each vertex, and then find optimal Eulerizations. Each of the graphs is connected.

