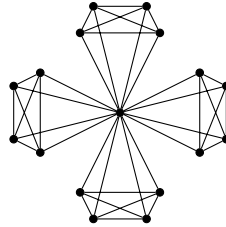


Exercise sheet 14

1. Decide, whether the following graph is Eulerian. If yes, find the corresponding Eulerian cycle.



2. The *Windmill graph* $\text{Wd}(k, n)$ is a graph on $n(k-1) + 1$ vertices constructed by taking n copies of the full graph K_{k-1} and adding an additional vertex that is connected to all other vertices. (The graph from the previous problem is $\text{Wd}(5, 4)$.) For which k and n is the Windmill graph Eulerian?

3. Consider the graph $G = (V, E)$, where $V = \{1, \dots, 8\}$ and

$$E = \{\{1, 2\}, \{1, 4\}, \{2, 3\}, \{2, 5\}, \{3, 4\}, \{3, 5\}, \{3, 6\}, \{4, 8\}, \{5, 6\}, \{5, 7\}, \{6, 7\}, \{6, 8\}\}.$$

Determine, whether it has an Eulerian cycle or an Eulerian trail. If yes, find it.