

**Math 142**  
**Graph Theory (Chapter 7)**  
**Spring 2021**

**Part I (Section 7.1): Euler Circuits, Euler Paths, and Transverse Graphs**

Graph theory is a math discipline credited to Leonard Euler based upon a “puzzler”.

**The Puzzler**

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## **Part II: Euler Circuits versus Euler Paths**

An Euler Circuit is a closed circuit that:

1. Starts and ends at the same node (vertex).
2. Crosses over each edge only once.
3. The graph is a transverse graph.

**Examples:**

An Euler Path is a closed circuit that:

1. Starts at an odd degree node (vertex).
2. Ends at a different odd degree node (vertex).
2. Crosses over each edge only once.
3. The graph is a transverse graph.

**Examples:**