

Graph Theory Weekly Problems 3

Due: 26 Jan 2024 at Midnight EST as a PDF on Submittity

v1.0: Last Updated January 24, 2024

1. Which of the below sequences are graphic? For the sequences that are graphic, construct a realization. For the sequences that are not graphic, prove why they are not graphic.

$$Z = \{2, 2\}, E = \{1, 2, 3, 4\}, P = \{1, 2, 2, 3, 3, 2\}, Y = \{1, 2, 3, 2, 2\}$$

2. Assume the below graphic sequence realizes a simple connected graph. Prove or disprove whether this graph has any cut edges.

$$S = \{2, 4, 8, 2, 2, 2, 4, 6, 8, 10, 2, 4, 2, 4, 2, 4, 2, 4, 2, 6, 2, 4, 2, 8, 6, 4, 6, 2\}$$