

Homework 1 Discrete Mathematics II

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Name: _____ Due Date: 02/21

Q 1 *For which values of n are these graphs bipartite?*

a) K_n

b) C_n

c) W_n

d) Q_n

Q 2 A simple graph is called regular if every vertex of this graph has the same degree. A regular graph is called n – regular if every vertex in this graph has degree n . For which values of n are these graphs regular?

a) K_n

b) C_n

c) W_n

d) Q_n

Q 3 The complementary graph \overline{G} of a simple graph G has the same vertices as G , however, if two vertices are adjacent in \overline{G} if and only if they are not adjacent in G . Describe each of these graphs.

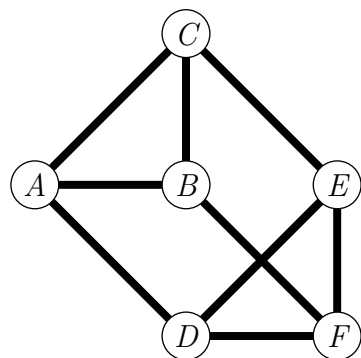
a) \overline{K}_n

b) \overline{C}_n

c) \overline{W}_n

d) \overline{Q}_n

Q 4 Write the adjacency and then incidence matrix for the following graph:



Q 5 Create a graph isomorphic, but different than, to the graph in question ?? 's graph .