Homework 38, Section 7.7: 5, 6(b), 8(b), 9(b), 10

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Homework

5.

The degree of the node must be greater than 2, because 1 would clearly not work. Because of this, this means that in order to use every vertex, we must have the same number of nodes in each part, meaning m and n need to be equal. Thus, as long as $m \geq 2$ then we can navigate any $k_{m,m}$

6. B)

a, d, c, e, b, a has the smallest weight at 24.

8. B)

The greedy algorithm produces a, e, b, d, c, a, with a weight of 29

9. B)

The edge-greedy algorithm adds edges in the order $[a, e], [a, c], [b, d], [b, c]$with a cycle a, d, c, b, e, a with the weight of 24

10.

The vertex a leads to the cycle a, d, b, c, a with the weight of 1000 while the cycle weights only 100.