Lecture Introduction to Network Science
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Solution 5

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Question 1

a) It is $1/n + 1$.

b) ER graphs do not have scale-free node distributions.

c) See Slide 19.

d) It is in **NP**, but not known to be **NP**-complete. We also do not know of any polynomial algorithm. Since we are focusing on "small" graphs of fixed size, the problem is essentially sovable in constant time.

Question 2

The three resulting node sets are $\{1, 2, 3\},\ \{1, 3, 4\}, \{2, 3, 4\}$. The subgraphs induced by the first and the last set are isomorphic, i.e. in the same equivalence class.