34. Let \( W_n \) be the wheel graph on \( n \) vertices. Show that \( \chi(W_n; k) = k(k - 2)^{n-1} + (-1)^{n-1}k(k-2) \).

35. A graph \( G \) is said to be uniquely \( k \)-edge colourable if any two proper edge colourings of \( G \) result in the same partition of \( E(G) \). Show the every uniquely 3-edge colourable 3-regular graph has a hamiltonian cycle.

36. Let \( G \) be a graph with degree sequence \( d_1, d_2, \ldots, d_n \) where \( d_1 \geq d_2 \geq \cdots \geq d_n \) and \( n = |V(G)| \). Then

\[
\chi(G) \leq \max_{1 \leq i \leq n} \min\{d_i + 1, i\}.
\]

37. Let \( G \) be 2-connected. A planar drawing of a graph is 2-face colourable if and only if \( G \) is eulerian.

38. Let \( D = (N, A) \) be a directed graph corresponding to a tournament, namely for each pair of nodes \( x, y \) either \( x \to y \) or \( y \to x \) (but not both). Assume \( D \) is strongly connected. Show that \( D \) has a Hamilton Directed cycle (a spanning directed cycle).