HW4 Due on Oct 8

1*. Let G be a triangle-free graph of at most 10 vertices. Show that $\chi(G) \leq 3$.

2. Let G be an arbitrary graph of n vertices and $\overline{G}$ be the complement of G. Show that $\chi(G)\chi(\overline{G}) \geq n$.

3*. Let G be an arbitrary graph of n vertices and $\overline{G}$ be the complement of G. Show that $\chi(G) + \chi(\overline{G}) \leq n + 1$.