

Graph Theory
Bonus Homework Series 12
In Groups of 2-4 Students

Keywords: Classical Ramsey Numbers, Graph Ramsey Numbers.

Exercise 1. *Prove that $R(3, 5) \leq 14$.*

Hint: Follow the ideas of the proof that $R(3, 4) = 9$ and also use that fact.

4 points.

Exercise 2. *Find $R(P_4, P_4)$ and prove your answer. Here, P_4 is the path on 4 vertices of length 3.*

4 points.
