

# Quiz 5

Student ID Number:

Name \_\_\_\_\_

Math 175, 12PM

Please justify all your answers

February 20, 2020

Please also write your full name on the back

1. True or false?
  - (a) A graph with four vertices and three edges must be connected.
  - (b) A graph's degree sum must be even.
2. Suppose a graph has  $n$  vertices. What is the maximum number of edges it can have?
3. Let  $G$  be a graph,  $\delta$  the minimal degree of  $G$ ,  $d$  the average degree, and  $\Delta$  the maximum degree. Show that  $\delta \leq d \leq \Delta$ .