

Quiz 09, MAT115R, Spring 2025

Name:

#1 (4 pts) Draw the two simplest non-planar graphs.

#2 (2 pts) : Demonstrate that the complete graph K_4 is not planar. Then verify that Euler's formula for planar graphs (RAN-2) works for K_4 .

#3 (2 pts) : Demonstrate Euler's reasoning for why the Königsberg bridge problem was impossible, by recreating the graph he studied and pointing out why it can't be traversed so that every bridge is crossed once before any bridge is traversed a second time.

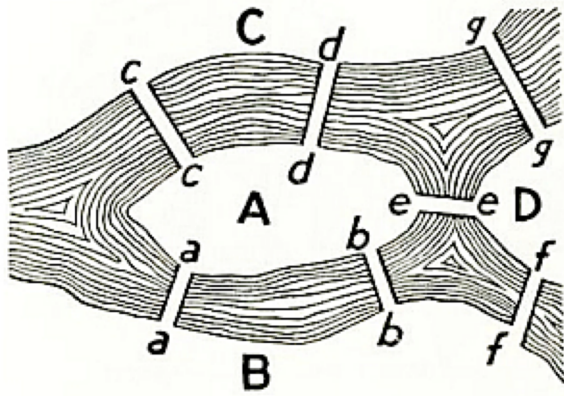


FIGURE 98. *Geographic Map:
The Königsberg Bridges.*

#4 (3 pts) Draw and identify **the duals** of the Platonic solids represented by these two-dimensional projections:

