1a: According to Euler’s formula, how many faces would $K_5$ need to have in any planar embedding?

1b: Using the result in 1a, show that $K_5$ is not planar.
Hint: Every face must contain at least three edges. Each edge is adjacent to exactly two faces.

2a: According to Euler’s formula, how many faces would $K_{3,3}$ need to have in any planar embedding?

2b: Using the result from 2a, show that $K_{3,3}$ is not planar.

3: Find a subdivision of $K_{3,3}$ or $K_5$ in, or a planar drawing of, each of the following graphs.