GRAPH THEORY: CLASS 1

1) Find an Euler trail in the graph G.

2) Show that $K_{2,3}$ and K_4 are planar. What do you think about K_5?

3) Show $1 + 3 + 5 + .. + (2k - 1) = k^2$.

4) Prove that if the numbers 1,2,..,12 are randomly positioned around a circle, then some set of three consecutively positioned numbers must have a sum of at least 19.

5) Show if n is odd then $n^2 + 1$ is even.
a) By using direct proof.
b) By using contrapositive.

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