BBM 205 - Quiz 8

12.12.'18

1. Show that the graph K_5 is not planar.

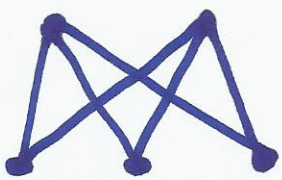
Answer: There are 10 edges and 5 vertices in K_5.

So, $e = 10$ and $n = 5$.

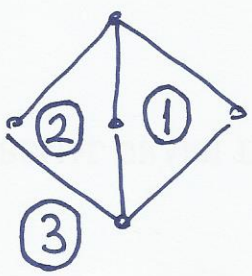
We know that for every planar graph, it is true that $e \leq 3n - 6$.

But when $e = 10 \not\leq 3 \cdot 5 - 6 = 9$, this is false. So, K_5 cannot be planar.

2. Draw the given planar graphs without any crossings. How many faces are in your drawing?



Answer:



3 faces

3