

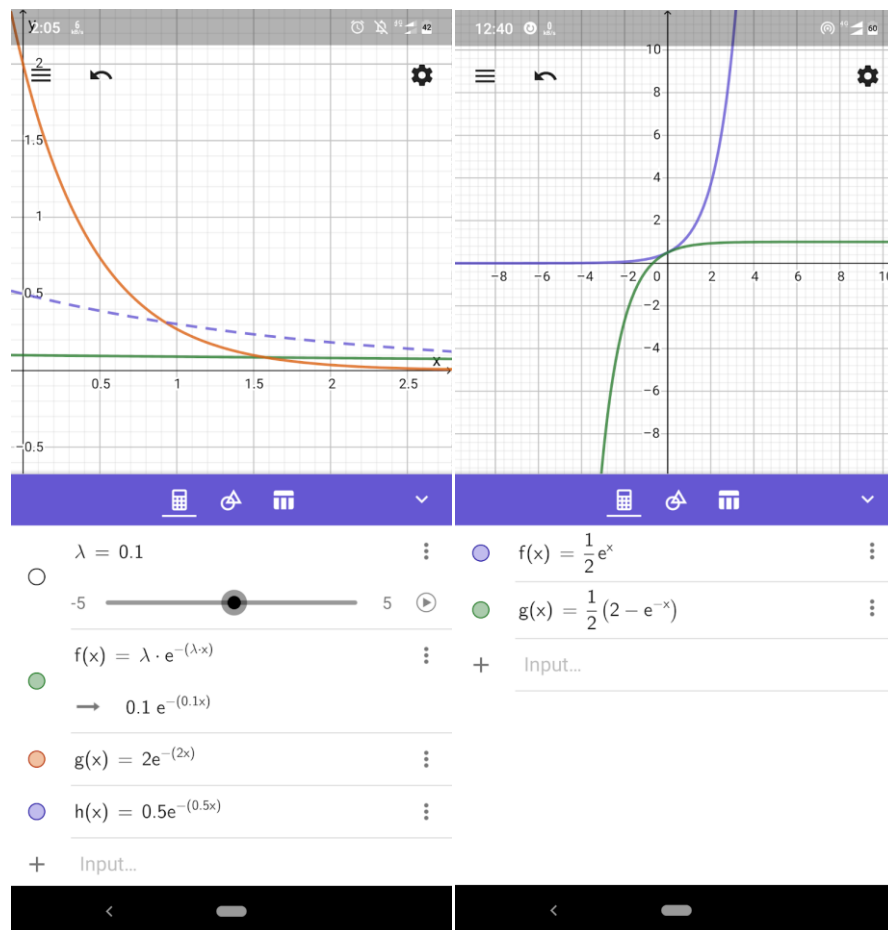


### Content beyond Syllabus / Innovation in Teaching

**Course** : ME 5.1 Engineering Statistics  
**Class** : TE Mechanical, Semester V  
**Course Instructor** : Flasio Colaco

The following are the list of innovative teaching methods and content taught that is beyond the scope of the syllabus, during the course of the semester.

1. Students were asked to install the “Geogebra” app on their smartphones which is used to plot graphs of any equations. This was then used to parametrically define probability density functions of continuous distributions to observe changes in their graphs as the parameters were varied. This is particularly important as these “pdf” determine the probability of an event occurring which is mathematically given by the area under the curve. These changes in probability could be seen by students as the corresponding parameters changed. The area and hence probability could also be obtained from the app and compared with hand calculations for numericals done in the tutorials.



2. To increase students' interaction and interest in the course, a live question survey using Google forms was conducted in class as a guessing game, asking students to take an educated estimate of the answer. The gathered data from the poll was then used to explain the concept of statistical



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equilibrium. Students used their mobile phones to answer the question live in class and their responses were displayed on the board using the projector.

Students had to estimate what number between 0 ~ 50, would represent half the average of all the numbers estimated by the whole class correct to 1 decimal place.

**A Game of Numbers**

Try to guess the number up to one decimal place that would be exactly half of the average of the values enter by all your classmates. GOOD LUCK !

\* Required

Roll No. \*

Your answer

Enter your chosen number: \*

Your answer

Submit

The 2 bar graphs taken one after the other from students responses, illustrates the understanding of the topic as the random guesses progressively move towards the equilibrium i.e. 0

