

Submit your Jupyter notebook with the answers to gradescope by 3:40pm.

Let $N = \cos(\pi/6)$.

1. Compute a rational approximation for N , accurate to 3 decimal places.
2. Verify that the accuracy of your rational approximation is 3 decimal places.
Write an explanation for your verification.
3. Compute the sequence of the first ten consecutive rational approximations for N , accurate respectively with 1, 2, up to 10 decimal places (10 included).