



The  $N$  range from 1 to 1000 in this experiment. The graph above shows  $d$  in 2, 5, 8 and 10. For Monte Carlo method, the error decrease as number  $N$  increase in all the chosen dimension cases. For Trapezoidal method, the error decrease as  $N$  get large but turn into constant as  $d$  gets big. In practice, I would recommend using Monte Carlo method with a large  $N$  because It has better approximation to the true value even with increase dimension.