

# calculations

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[1]: import numpy as np

[95]: trial1 = [33,27,21,18,15,10,8,5,2]
      trial2 = [29,25,20,16,12,10,6,4,1]
      trial3 = [40,32,27,22,17,14,10,6,3,1]
      trial4 = [36,29,35,21,15,13,19,6,2,0]
      water1 = [46,33,24,18,16,13,10,9,8,6,4,4,2]
      water2 = [47,33,24,19,16,13,10,9,8,6,5,4,2,2]

[108]: def eq12_16(trial, T=0.56):
      ratio = []
      for index, _ in enumerate(trial):
          try:
              r = trial[index] / trial[index+1]
              ratio.append(r)
          except (IndexError, ZeroDivisionError):
              pass
      return np.log(np.mean(ratio))/T

[109]: eq12_16(trial2, 5.6)

[109]: 0.0915756475765471

[110]: eq12_16(water1)

[110]: 0.49435968668023134

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