Algorithm 1 & 2:

1. see excel spreadsheet
2. see excel spreadsheet
3. Algorithm 1: $y = 4\text{E-}08x^{2.9773}$, Algorithm 2: $y = 1\text{E-}07x^{1.9669}$. Both Algorithms are exponential.
4. The discrepancies between the theoretical and the experimental are relatively small. The discrepancies could be machine related or due to a small sample size.
5. Algorithm 1:
   - 10 seconds: n = 661
   - 30 seconds: n = 957
   - 60 seconds: n = 1207

   Algorithm 2:
   - 10 seconds: n = 11676
   - 30 seconds: n = 20412
   - 60 seconds: n = 29036
6. see excel spreadsheet
7.