> $f(R\_A, N\_A, N\_B) := 0.45 - \frac{R\_A}{N\_A^2} - \frac{\left(\frac{1.5 \cdot \log(N\_B)}{\log(2)} - 1\right)}{N\_B} - \left(0.1 + \frac{1}{(N\_A + 1)}\right) \cdot \left(\frac{1}{N\_A} + \frac{1}{N\_B}\right)$

$$f := (R\_A, N\_A, N\_B) \mapsto 0.45 - \frac{R\_A}{N\_A^2} - \frac{\frac{1.5 \cdot \log(N\_B)}{\log(2)} - 1}{N\_B} - \left(0.1 + \frac{1}{N\_A + 1}\right) \cdot \left(\frac{1}{N\_A} + \frac{1}{N\_B}\right) \quad \textbf{(1)}$$

The 5 cases of a rooted tree T_A with 4 leaves; stem being a single vertex, K_2 (2 possible T_A), rooted P_3 or rooted S_3
Here for R_A, an upperbound equal to N_A*(ell/2+s) has been used, where s is the number of vertices in the stem, and ell=4 the number of leaves

> $f(16 \cdot 3, 16, 2^7)$

$$0.1771139706 \quad \textbf{(2)}$$

> $f(18 \cdot 4, 18, 2^7)$

$$0.1438870614 \quad \textbf{(3)}$$

> $f(20 \cdot 4, 20, 2^7)$

$$0.1672470238 \quad \textbf{(4)}$$

> $f(22 \cdot 5, 22, 2^7)$

$$0.1408658597 \quad \textbf{(5)}$$

> $f(25 \cdot 5, 25, 2^7)$

$$0.1691610577 \quad \textbf{(6)}$$

The 2 cases where T_A has 3 leaves; stem with one vertex or 2 (S_4 or S_4 with one edge subdivided)

> $f(8 \cdot 2.5, 8, 2^7)$

$$0.03524305556 \quad \textbf{(7)}$$

> $f(31, 10, 2^7)$

$$0.04519886364 \quad \textbf{(8)}$$

Additionally, the computation for the case where N_A, N_B >= 32,
with also verification that the ratio is decreasing (ln(N_B)>1+1.5/ln(2)

> $0.45 - \frac{2 \cdot 6.5}{32} - \left(0.1 + \frac{1}{33}\right) \cdot \left(\frac{1}{32} \cdot 2\right)$

$$0.03560606061 \quad \textbf{(9)}$$

> $diff\left(\frac{\left(\frac{1.5 \cdot \log(N\_B)}{\log(2)} - 1\right)}{N\_B}, N\_B\right)$

$$\frac{1.5}{N\_B^2 \ln(2)} - \frac{\frac{1.5 \ln(N\_B)}{\ln(2)} - 1}{N\_B^2} \quad \textbf{(10)}$$