Let $P(i,j)$ be the probability having a link between node i and j.

$\therefore$ Probability that node i, j, ℓ form a triangle $P(i,j)P(j,\ell)P(\ell,i)$

- expected number of triangles in which node ℓ with degree k_ℓ = sum of probability that node ℓ participates in triangles with arbitrary chosen nodes i and j in the network

$$N_{r_\ell}(\triangle) = \int_{i=1}^{N} di \int_{j=1}^{N} dj \, P(i,j)P(i,\ell)P(j,\ell)$$

Let assume $t_j = j$ the time when node j arrived.

probability that node j links to node i when $\underbrace{t=j}_{\text{arrival of } j}$ $P(i,j) = m\Pi(k_i(j)) = m\frac{k_i(j)}{\sum_{\ell=1}^{j} k_\ell(j)} = m\frac{k_i(j)}{2mj}$

$$k_i(t) = m\left(\frac{t}{t_i}\right)^{\frac{1}{2}} = m\left(\frac{j}{i}\right)^{\frac{1}{2}} = m(ij)^{-\frac{1}{2}}$$

$$\therefore P(i,j) = \frac{1}{2j} m (ij)^{-\frac{1}{2}}$$

$$N_{r_\ell}(\triangle) = \int_{i=1}^{N} di \int_{j=1}^{N} dj \, P(i,j)P(i,\ell)P(j,\ell) = \frac{m^3}{8}\int_{i=1}^{N} di \int_{j=1}^{N} dj \, (ij)^{-\frac{1}{2}} (i\ell)^{-\frac{1}{2}} (j\ell)^{-\frac{1}{2}}$$

$$= \frac{m^3}{8}\int_{i=1}^{N} \frac{di}{i} \int_{j=1}^{N} \frac{dj}{j} = \frac{m^3}{8\ell}(\ln N)^2$$

$$C_\ell = \frac{2N_{r_\ell}(\triangle)}{k_\ell(k_\ell - 1)} = \frac{m^3/4\ell \, (\ln N)^2}{k_\ell(N)\,(k_\ell(N) - 1)} =$$

$$k_\ell(N) = m\left(\frac{N}{\ell}\right)^{\frac{1}{2}} \quad \text{from } k_i(t) = m\left(\frac{t}{t_i}\right)^{\beta}$$

$$k_\ell(N)(k_\ell(N) - 1) \approx k_\ell^2(N) = m^2\frac{N}{\ell}$$

$$\therefore C_\ell = \frac{\frac{m^3}{4\ell}(\ln N)^2}{m^2\frac{N}{\ell}} = \frac{m}{4}\frac{(\ln N)^2}{N} \longrightarrow \text{independent on } \ell.$$

$$\therefore \langle C \rangle = \frac{m}{4}\frac{(\ln N)^2}{N}$$