HW V: Random graphs (due before Mar 14th at 8:00)

1. Let G be a random $G_{n,p}$ graph. Determine p_n^* (which may be a function of n) such that if $p_n = o(p_n^*)$ (i.e., $p_n/p_n^* \to 0$) then G has no triangle with probability $1 - o(1)$ and if $p_n = \omega(p_n^*)$ (i.e., $p_n/p_n^* \to \infty$) then G has a triangle with probability $1 - o(1)$. Recall that a triangle is a triple (u, v, w) of vertices such that all the edges between them are present.