

8) Show that the number of spanning trees in a complete graph with  $n$  vertices is at least  $2^{n-1} - 1$ .

In the case  $K_n$

Ⓐ

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○ ○ ○ ○ ○ ○ ... (n-1)

we have  $2^{n-1}$  way to connect the vertex A and another vertex, except the situation the Ⓐ is not connected to any of them. So the number of spanning tree is at least  $2^{n-1} - 1$ .