

By the assumption, i.e., the Cayley-Bacharach property,
 $A+B$ contains p_1 . \Rightarrow

Now in general no $n(n-3)/2 + 1$ of the points P_i will
 lie on a curve of degree $n-3$.

$$\begin{aligned} \text{If } \deg A = n, \quad A \supset P_2, \dots, P_{\frac{n(n+3)}{2}} \quad \# \{P_i\} &= \frac{n(n+3)}{2} - 1 \\ \deg B = n-3, \quad B \supset P_{\frac{n(n+3)}{2}+1}, \dots, P_{n^2} \quad \# \{P_i\} &= n^2 - \frac{n(n+3)}{2} = \frac{n(n-3)}{2} \end{aligned}$$

In general, ^(means the general position) B can not $\frac{n(n-3)}{2} + 1$ points P_i 's since if
 the $\frac{n(n-3)}{2} + 1$ points are linearly indep-
 ent, $\#(B \cap H) \geq \frac{n(n-3)}{2} + 1$, but $\#(B \cap H) < n-3$ (\because
 $\deg B = n-3$). Note here that $n-3 > \frac{n(n-3)}{2} + 1$

$$\Leftrightarrow (n-3) - \frac{n(n-3)}{2} - 1 = \frac{(n-3)(2-n)}{2} - 1 > 0$$

which is absurd. \Rightarrow

In this case p_1 lies on A , and we proved:

Given N of the points P_i , any hyperplane containing
 $N-1$ of $i_n(P_i)$ contains the N th point also.

This clearly implies (**).

In the exceptional case we label our points $P_1, P_2, \dots, P_{n^2+2}$
 so that the curve B of degree $n-3$ passes through ex-
 ctly

$$P_k, \dots, P_{n^2}, \quad k \leq \frac{n(n+3)}{2}.$$