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# **Food for Thought**

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### **No Prerequisites Cayley-Bacharach**

#### **Abstract:**

The Cayley-Bacharach theorem says that if two plane cubics intersect in exactly 9 points, then any third cubic passing through eight of these must pass through the ninth. We'll give a weird, elementary but cute proof which shows something a tiny bit stronger. The prerequisites will be not nil but nilpotent, limited to Bezout's theorem which I'll state carefully in the form I need. This proof came from Math 262A, which apparently got it from Terence Tao's blog.

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