1093-16-77 **David J Saltman*** (`saltman@idaccr.org`), 805 Bunn Dr, Princeton, NJ 08540, and **Louis Rowen**. *Tensor Products of Division Algebras.*

If F is an algebraically closed field and K/F and L/F are arbitrary field extensions, it is standard that $K \otimes_F L$ is a domain and thus has a field of fractions. Since the 1960's people have asked for a proof of the same fact when K, L are replaced by division algebras (I think most people assumed the result was true and just a proof was lacking). We will show this is very often true but also present a counterexample. For convenience we will focus on the case that the division algebras are $D_i/F(V_i)$ of prime degree and where the V_i are smooth F varieties of characteristic 0 (which we can achieve by desingularization). More specifically we will show two things. First of all, if either of the D_i ramify at any discrete valuation of $F(V_i)$ then $D_1 \otimes_F D_2$ is a (noncommutative) domain. Secondly we have an example there the V_i are elliptic curves and $D_1 \otimes_F D_2$ is NOT a domain. Along the way we encounter two interesting issues. One is the curious properties of the FIELDS $F(V_1) \otimes_F F(V_2)$. The second is a splitting criterion in the case the V_i are curves. (Received July 31, 2013)