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Lee Klingler* (klingler@fau.edu), 777 Glades Road, Boca Raton, FL 33431, and **Warren McGovern**, 5353 Parkside Drive, Jupiter, FL 33458. *Pseudo-Valuation Domains and $C(X)$* . Preliminary report.

Let D be a local integral domain with maximal ideal M and field of fractions K . We consider the following conditions on D .

1. D is a valuation domain, i.e., the ideals of D are linearly ordered by inclusion.
2. D is a pseudo-valuation domain, i.e., $M : M = \{a \in K : aM \subseteq M\}$ is a valuation domain with maximal ideal M .
3. $M : M$ is a valuation domain.
4. D is a divided domain, i.e., $PD_P = P$ for all prime ideals $P \subseteq D$.
5. The prime ideals of D are linearly ordered by inclusion.

It is well-known that (1) implies (2), (2) implies both (3) and (4), and each of (3) and (4) implies (5). We show that in fact (3) implies (4), and we explore which of these conditions hold for domains of the form $C(X)/P$, where $C(X)$ is the ring of continuous, real-valued functions on the compact, Tychonoff space X , and $P \subseteq C(X)$ is a prime ideal. (Received January 10, 2017)