1046-51-756 R KillGrove*, 2041 W. Vista Way 7245, Vista, CA 92083, and L Taylor and D Koster. Two Neat Results In Elementary Geometry.
Axioms of an ordered plane use the ternary relation $\omega \mathrm{ABC}$, eg. Self-Dual Confined Configuations With Ten Points, Ars Comb 67 (2003) 37-63. In $\mathrm{E}^{2}$ for $\mathrm{A}:\left(\mathrm{A}_{1}, \mathrm{~A}_{2}\right)$ and $\mathrm{C}:\left(\mathrm{C}_{1}, \mathrm{C}_{2}\right)$ with $\mathrm{A} \neq \mathrm{C}$ and $\mathrm{B}:\left(\mathrm{B}_{1}, \mathrm{~B}_{2}\right)$ satisfy $\omega \mathrm{ABC}$ iff $\exists t, 0<t<1$ $\ni$ for $\mathrm{i}=1,2 \mathrm{~B}_{i}=\mathrm{tA}_{i}+(1-\mathrm{t}) \mathrm{C}_{i}$. For $\triangle \mathrm{P}_{1} \mathrm{P}_{2} \mathrm{P}_{3}$ (triangle $\mathrm{P}_{1} \mathrm{P}_{2} \mathrm{P}_{3}$ ) and let $\triangle \mathrm{Q}_{1} \mathrm{Q}_{2} \mathrm{Q}_{3}$ be where $\omega \mathrm{P}_{1} \mathrm{Q}_{3} \mathrm{P}_{2}, \omega \mathrm{P}_{2} \mathrm{Q}_{1} \mathrm{P}_{3}$, and $\omega \mathrm{P}_{3} \mathrm{Q}_{2} \mathrm{P}_{1}$ using the same $t$. Special case: $\mathrm{A}:(u, v), 0<u<1, v>0, \mathrm{~B}:(0,0), \mathrm{C}:(1,0), \mathrm{A}^{\prime}:(1-t, 0), \mathrm{B}^{\prime}:(t+(1-t) u,(1-t) v)$ $\mathrm{C}^{\prime}:(t u, t v)$. The charm: areas of $\triangle \mathrm{AB}^{\prime} \mathrm{C}^{\prime}, \triangle \mathrm{A}^{\prime} \mathrm{BC}^{\prime}$, and $\triangle \mathrm{A}^{\prime} \mathrm{B}^{\prime} \mathrm{C}$ are equal. Koster has shown finite field planes (analytic geometry in the field) whose orders are congruent to $2 \bmod 3$, except 2 , satisfy all the axioms of an ordered plane except the Pasch axiom. These are ordered planes even though their defining fields are not ordered. (Received September 10, 2008)

