

MATH 476 – College Geometry

Homework Assignment 9 and Proofs 9

Homework:

Not due

1. Finish the proof of Pappus' Theorem by showing that $\overleftrightarrow{P'_1Q'_2} \parallel \overleftrightarrow{P'_2Q'_1}$ even if $\ell'_1 \parallel \ell'_2$.
2. Prove that \sim on $\mathbb{R}^3 - \{(0, 0, 0)\}$ is an equivalence relation.
3. Prove that every projective plane has at least 7 points.
4. Prove that every line contains at least three distinct points. Note that Axiom 1 does **not** imply that every line contains at least two points!
5. Prove that every point is contained in at least three distinct lines.