Define \(p_{ij}\) to be one of the six minors of a matrix \(M\):

\[
M = \begin{bmatrix}
x_1 & x_2 & x_3 & x_4 \\
y_1 & y_2 & y_3 & y_4 \\
\end{bmatrix}, \quad p_{ij} = \det \begin{bmatrix}
x_i & x_j \\
y_i & y_j \\
\end{bmatrix}.
\]

**Problem.** Find a (nontrivial) polynomial equation valid for all \(M\):

\[
Q(p_{12}, p_{13}, p_{14}, p_{23}, p_{34}, p_{24}) = 0.
\]

**Hint.** The expression \(Q\) involves each \(p_{ij}\) exactly once.

- Partial credit may be given for partial answers.
- Each POW will be due the following week at 1pm.
- Questions? Email: bthorner@unomaha.edu
- Submit solutions to (above email), DSC 210, or DSC 203.
- POWs, solutions, backgrounds, leaderboard available at