MATH 2600–2/1 Notes

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Determinants

- Applies for square matrices

$$\det \begin{pmatrix} a & b \\ c & d \end{pmatrix} = ad - bc = 0$$

- If $\det(A) \neq 0$, A is invertible.
- If $A^{-1} = M = \frac{1}{ad-bc} \begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$, then $AM = I_n$
- Say $A = \begin{pmatrix} a & b \\ c & d \end{pmatrix}$ is not invertible $\rightarrow \det(A) = 0$.
    1. $a = 0$
    2. $c = 0$ and $b = 0$
    3. $d = 0$
    4. None are zero