An Evolving List of Important Facts

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1. There's no such thing as a "matrice." You have one *matrix* but two or more *matrices*.
2. When writing a matrix by hand, use either brackets—like $\begin{bmatrix} a & b \\ c & d \end{bmatrix}$—or parentheses—like $\begin{pmatrix} a & b \\ c & d \end{pmatrix}$. But never straight bars: $\begin{vmatrix} a & b \\ c & d \end{vmatrix}$, because straight bars around a square matrix indicate the determinant of that matrix—e.g., $\begin{vmatrix} a & b \\ c & d \end{vmatrix} = ad - bc$, not the matrix itself.
3. A matrix is never *inconsistent*. (Nor is it ever *consistent*.) Only a *system* can be consistent or inconsistent, because only a system can have a solution—or fail to have one. Remember: not every matrix is associated with a system, just as not every definite integral is an area.
4. In a replacement row operation, the target row, i.e., the row you want to change, is never multiplied by anything or subtracted from anything. E.g., $⑦ + k③ \to ⑦$ replaces row 7 by the result of multiplying row 3 by k and adding it to the current row 7.