Reading Questions for Introduction to Linear Algebra, Section 1.6

1. Explain why fact E in Section 1.6.3 holds? That is, knowing what you have learned about the calculation of a determinant, why is fact E clearly true?

   One additional fact—call it Fact G—I could mention is that a matrix $A$ and its transpose $A^T$ have the same determinant. Assuming this, why must it also be true that a matrix that has two identical rows or two identical columns is singular?

2. Use Cramer’s rule to find a formula for the inverse matrix $A^{-1}$ when $A$ is the 2-by-2 matrix

   $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$.

3. Identify one item (a concept, a step in an example, a statement, etc.) from this reading assignment you found difficult or confusing.