Math History for Precalculus

Gabriel Cramer

1. When did Gabriel Cramer live? *1704–1752*
2. Where was he from? *Switzerland (Geneva)*
3. Name the theorem named in his honor that you studied in this chapter. Apply it to the system below.

$$ax + by + cz = d$$

$$ex + fy + gz = h$$

$$ix + jy + kz = l$$

Cramer's Rule; $$x = \frac{\begin{vmatrix} d & b & c \\ h & f & g \\ l & j & k \end{vmatrix}}{\begin{vmatrix} a & b & c \\ e & f & g \\ i & j & k \end{vmatrix}} \quad y = \frac{\begin{vmatrix} a & d & c \\ e & h & g \\ i & l & k \end{vmatrix}}{\begin{vmatrix} a & b & c \\ e & f & g \\ i & j & k \end{vmatrix}} \quad z = \frac{\begin{vmatrix} a & b & d \\ e & f & h \\ i & j & l \end{vmatrix}}{\begin{vmatrix} a & b & c \\ e & f & g \\ i & j & k \end{vmatrix}}$$

4. Did he discover it? Why was it named after him? *No, Maclaurin published it 2 years earlier; Cramer's superior notation made the result known.*
5. In which of his works was it published? *Introduction á l'analyse des lignes courbes algébriques*
6. When was the work published? *1750*
7. Where did it appear in the work? *in the appendix*
8. What other important result was contained in the work? *An nth degree equation is determined by* $\frac{1}{2}n(n+3)$ *points.*

Cramer visited and corresponded with many mathematicians and scientists of his day. These communications served to keep them abreast of recent discoveries, as a modern magazine would for us.

9. Name some of those with whom he corresponded. *Euler, d'Alembert, Halley, and the Bernoullis*

Cramer edited and published some of his colleagues' work also, making the results available to others.

10. Name at least one man whose work he edited and published. *Leibniz or Jacob Bernoulli (I)*