MA 410 ASSIGNMENT DUE: MONDAY, OCT. 19

① Find all solutions of $x^3 + 11x = 6x^2 + 6$ by letting $x = y + 2$.

② Cardan published the following formula for a root of $x^3 = px + q$, where $p > 0$, $q > 0$:

$$x = \sqrt[3]{\frac{q}{2} + \sqrt{\frac{q^2}{4} - \frac{p^3}{27}}} + \sqrt[3]{\frac{q}{2} - \sqrt{\frac{q^2}{4} - \frac{p^3}{27}}} \quad (*)$$

Use formula (*) to solve $x^3 = 9x + 12$.

③ What might have influenced Rafael Bombelli's interest in mathematics? [You will have to look outside of Boyer's textbook.]