Last HW Assignment

The following is due April 30th by 12:45 pm.

1. Type an account (2-3 pages) of what you learned from the movie "Gravity of Genius". You may use the book as a reference but be sure to cite correctly where you got information. Most of your information should come from the movie. Be sure to include dates. You may include opinions as well. But I am looking for what historical facts you’ve learned.

2. Type an account of what you learned from the movie "Galileo’s Battle for the Heavens". You may use the book as a reference but be sure to cite correctly where you got information. Most of your information should come from the movie. Be sure to include dates. You may include opinions as well. But I am looking for what historical facts you’ve learned.

The next problems involve Descarte’s Rule of Signs:

3. Prove that the equation $x^3 + a^2x + b^2 = 0$ has one negative and two imaginary roots if $b \neq 0$.

4. Prove that the equation $x^3 - a^2x + b^2 = 0$ has one negative root, while the other two roots are either imaginary or both positive.

5. Prove that the equation $x^4 + a^2x^2 + b^2x - c^2 = 0$ has just two imaginary roots if $c \neq 0$.

6. Show that the equation $x^3 + 3x + 7 = 0$ has imaginary roots.