Programming Assignment 1 – Solving the Quadratic Equation

Remember from Algebra that quadratic equations take the form: $ax^2 + bx + c = 0$

And that the general solution is:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Write a C++ program to prompt for the three coefficients (*a, b, c*), compute the two roots using the general solution, and display the results.

A sample run:

```
Welcome to Rickster's Quadratic Equation solver thingy

Enter the coefficient for a: 2
Enter the coefficient for b: 5
Enter the coefficient for c: 3
The roots of x are -1 , -1.5

Thank you, drive through.
```

Notes:

- There is no $\pm$ operation. You'll have to perform the calculation twice, once for + and once for –
- There is no $\sqrt{x}$ operator in C++, but you can perform $x^{1/2}$
- To exponentiate in C++, include <cmath> and use the pow function.
- If your program works for a set of coefficients with real roots (like 2,5,3 in my sample run), then you're good. There's no need to check for imaginary roots. That is way beyond the scope of this assignment.
- Submit your single cpp file.