Assignment: Homework Five Name: Cody Strange  
Disclaimer: This is my work, not that of others  
Total Score: 30 (in points, not percentage)

Problem 1 score: 10  
Problem 2 score: 10  
Problem 3 score: 10

1. Using the bisection method. The first step is to graph the function and see roughly where the

roots are located.

A picture containing text, shoji, tiled, dirty

Description automatically generated

The roots are located close to -10 and 10. Because there are two roots I have to create the program to be able to check for each one individually. To make this easier to implement I’ll adjust the given code to take an extra parameter that checks if I am looking for the smaller root or the larger root. To find the -10 root I manually make xr = xm for the first iteration, after that I can treat the problem as if there was only one root and find it. The root for the one that was close to -10 is actually -10.260964380932979. To find the root closer to 10 you do the opposite, you set the xl = xm on the first iteration and then treat the problem as if that was the only root. The root for the one closest to 10 is actually 9.886002700947888.

Text

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1. Using the bisectional method. The first step is to graph the function to get a rough estimate of where the roots are located.

Chart

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Roots are 1.5121345516578422 and 0.6190612867359451

1. Used the false position method

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APR = 4.47%