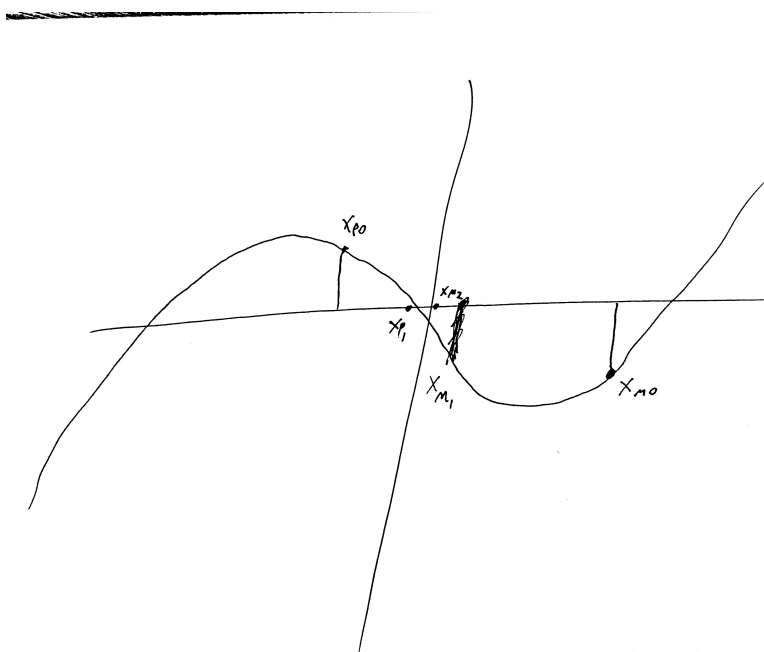


## 2411 HW 5

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1



2

The program appears in the Script Files section.

### 3 Script Files

```
#include <iostream>
#include <cmath>

using namespace std;

float f(double x) {
    return 5 / 2 * pow(x, 3) - 3 / 2 * x;
}

int main() {
    float h = 0.1, xm = -1, xp = xm + h, xmid, fmid;

    cout << "xp xm fmid" << endl;
    while ((f(xm) * f(xp) >= 0.0f)) {
        xp += h;

        for (int i = 0; i < 20; i++) {
            xmid = (xm + xp) / 2;
            fmid = f(xmid);

            cout << xp << " " << xm << " " << fmid << endl;

            if (abs(fmid) < 1E-6) break;

            if (!(f(xm) * fmid >= 0.0f)) {
                xp = xmid;
            }

            if (!(f(xp) * fmid >= 0.0f)) {
                xm = xmid;
            }
        }

        return 0;
    }
}
```