Assignment: Homework. 2 Name: Tanner Orndorff

Disclaimer: This is my work, not that of others:

Total Score: 100

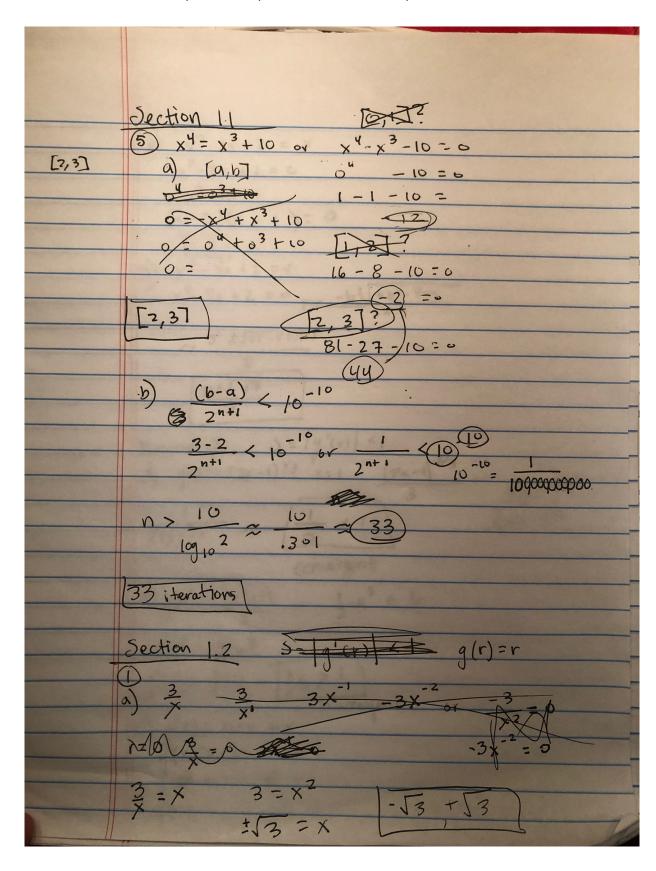
Problem 1 score: 20

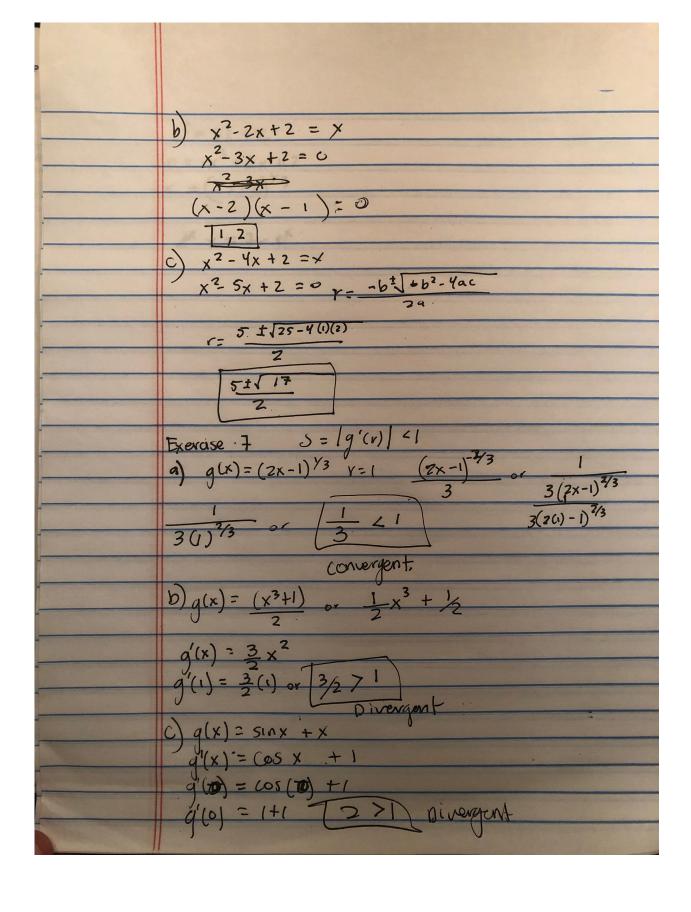
Problem 2 score: 20

Problem 3 score: 20

Problem 4 score: 20

Problem 5 score: 20





Computer Problems

```
1.1 # 2 a,b,c
function xc=bisect(f,a,b,tol)
if sign(f(a))*sign(f(b)) >= 0
    error('f(a)f(b)<0 not satisfied!')</pre>
end
fa=f(a);
fb=f(b);
while(b-a)/2>tol
    c=(a+b)/2;
    fc=f(c);
    if fc == 0
        break
    end
    if sign(fc)*sign(fa)<0</pre>
        b=c;fb=fc;
    else
        a=c;fa=fc;
    end
end
xc = (a+b)/2;
clc
f=@(x) x^5+x-1;
xc = round(bisect(f,0,1,.0000000005),8)
f=@(x) (6*x) + 5 - sin(x);
xc = round(bisect(f,-1,0,.0000000005),8)
f=@(x) log(x) + x^2 - 3;
xc = round(bisect(f, 1, 2, .0000000005), 8)
1.2 # 1 a,b,c
function xc=fpi(g, x0, k)
x(1) = x0;
for i=1:k
    x(i+1)=g(x(i));
end
xc=x(k+1);
g=@(x) ((2*x) + 2)^(1/3);
xc = round(fpi(g,1/2,20),8)
g=@(x) log(7-x);
```

```
xc = round(fpi(g,1/2,20),8)
g=@(x) log(4-sin(x));
xc = round(fpi(g,1/2,20),8)
```

Computer problems output, 1.1 2 and 1.2 1

Command Window

xc =

-0.970898920000000

xc =

1.592142940000000

xc =

1.769292350000000

xc =

1.672821700000000

xc =

1.129980500000000

 $f\underline{x} >>$