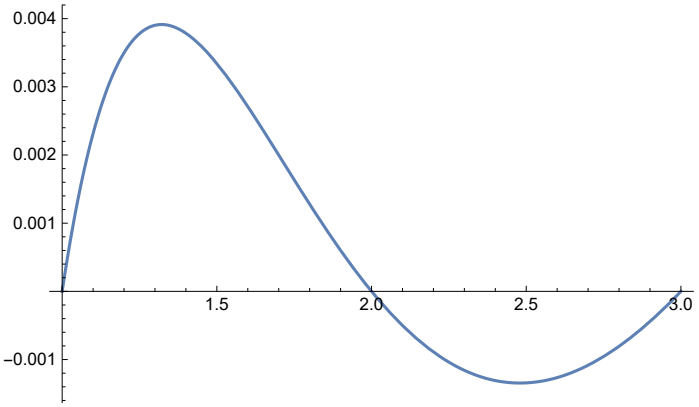
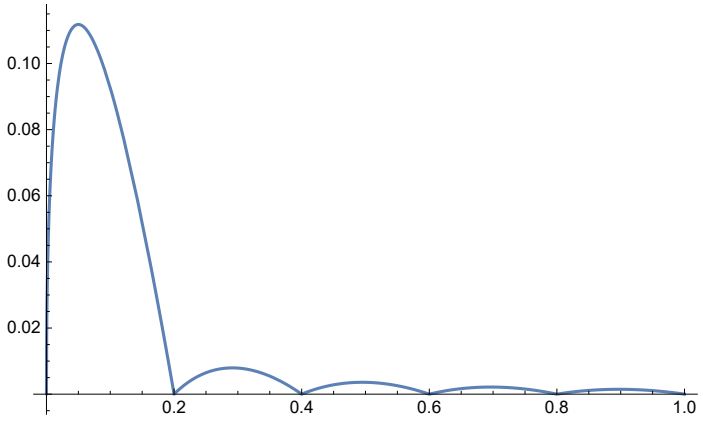
In[30]:=
```
f[t_] := Exp[-t];
f1[t_] := 1 / (1 + t);
f2[t_] := 1 / (2 + t);
f3[t_] := 1 / (3 + t);
solution := Solve[{
    a * f1[1] + b * f2[1] + c * f3[1] == f[1],
    a * f1[2] + b * f2[2] + c * f3[2] == f[2],
    a * f1[3] + b * f2[3] + c * f3[3] == f[3]}, {a, b, c}];
L[t_] := Simplify[a * f1[t] + b * f2[t] + c * f3[t] /. solution];
Plot[f[t] - L[t], {t, 1, 3}]
```

Out[36]=



In[60]:=
```
n = 5;
Do[x[k] = k / n, {k, 0, n}];
f[t_] := Sqrt[t];
Do[c[k] =
    ((f[x[k + 1]] - f[x[k]]) / (x[k + 1] - x[k]) - (f[x[k]] - f[x[k - 1]]) / (x[k] - x[k - 1])) /
     2, {k, 1, n - 1}];
c[0] = ((f[x[0]] + f[x[n]]) / (x[n] - x[0]) + (f[x[1]] - f[x[0]]) / (x[1] - x[0])) / 2;
c[n] = ((f[x[0]] + f[x[n]]) / (x[n] - x[0]) - (f[x[n]] - f[x[n - 1]]) / (x[n] - x[n - 1])) / 2;
I1[t_] := Sum[c[k] * Abs[t - x[k]], {k, 0, n}];
Plot[f[t] - I1[t], {t, 0, 1}, PlotRange → All]
Plot[{f[t], I1[t]}, {t, 0, 1}]
```

Out[67]=



Out[68]=