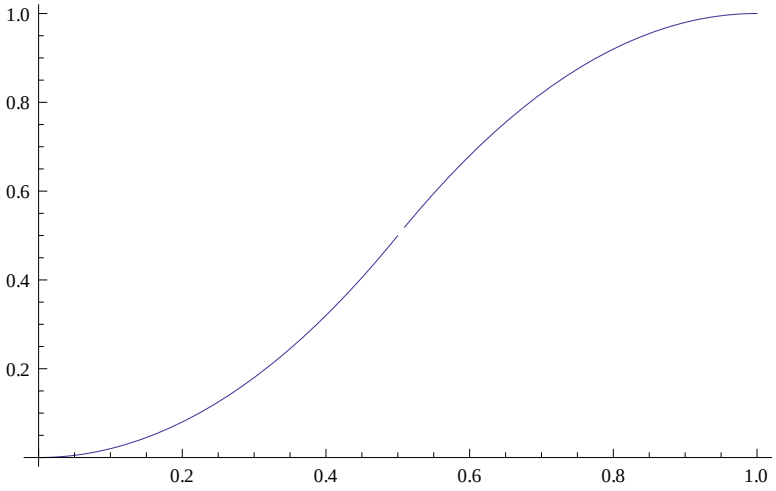
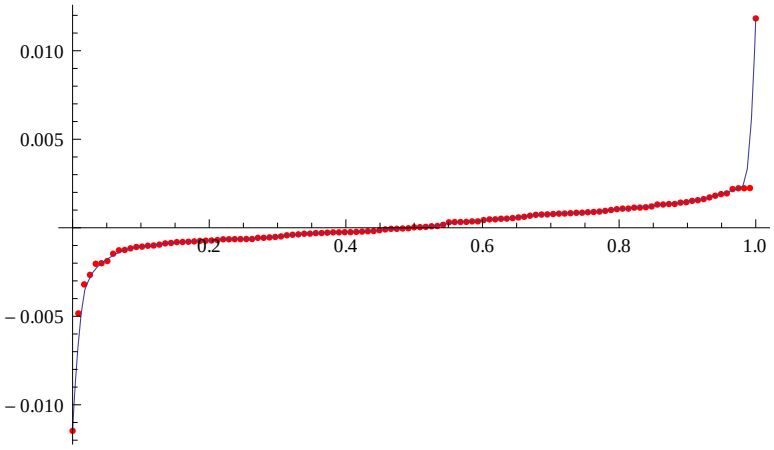
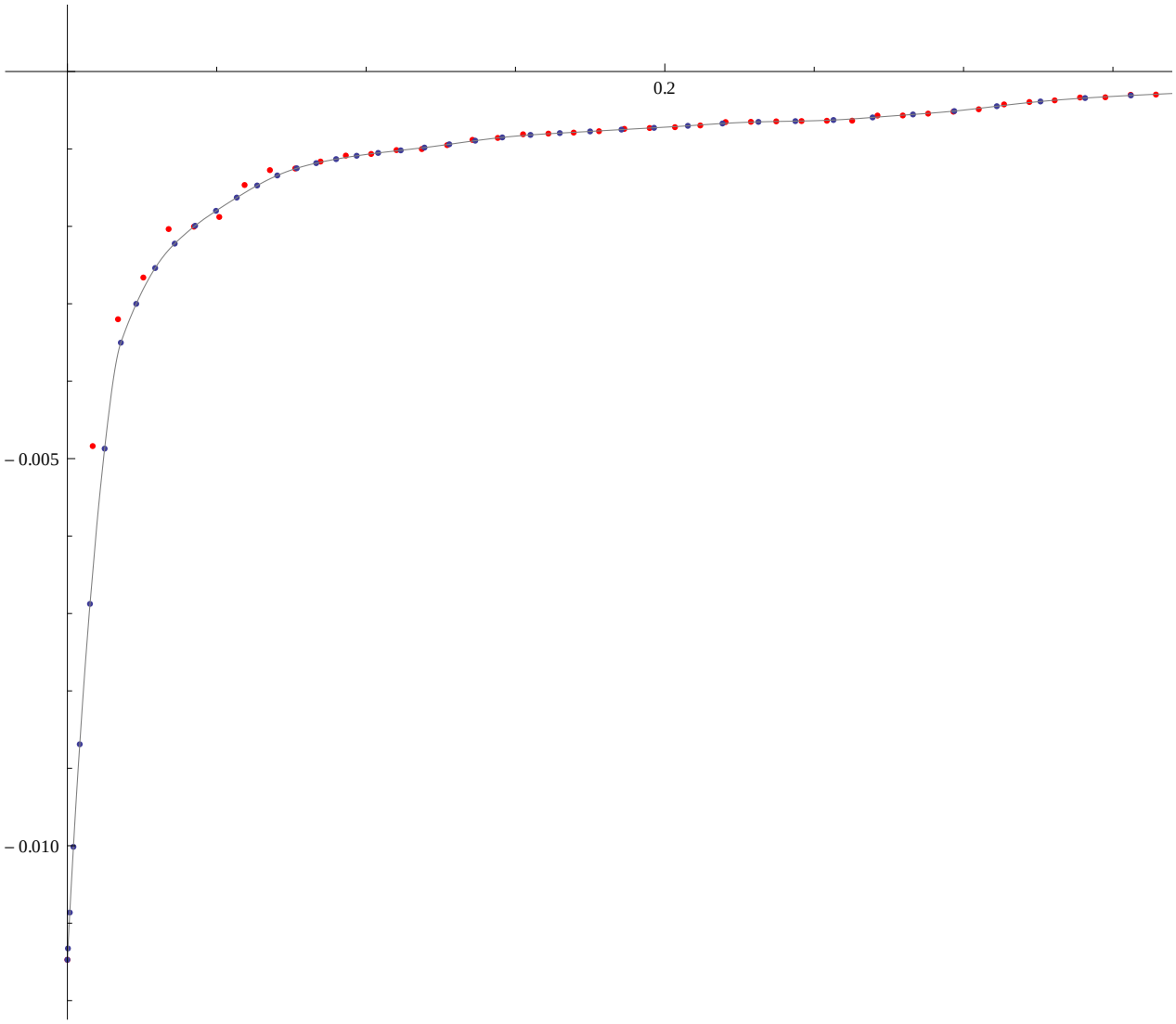
```
d = {{1, 1}, {2, 4}, {5, 1}, {8, -4},
   {9, -3}, {10, 1}, {11, 1}, {11.1, 2}, {11.4, 4}, {12, 0}};
d = XY; {#[[2]], #[[1]]} & /@ hedgeI;
n = Length[d] - 1;(*Anzahl der Punkte - 1*)
p = 10;(*Ordnung*)
m = n + 1 + p ;(*Anzahl der Knots - 1*)
(*Knot-Erzeugung*)
u = Join[Table[0, {i, p}], Table[i / (n + 1 - p), {i, 0, n + 1 - p}], Table[1, {i, p}]];
w = Table[1, {i, n + 1}];

P[t0_] := Module[{ab, a, k, j = m, i, t = t0, u = u, d = d * w, p = p, n = n, m = m, w = w},
  (*j Bestimmtung*)
  If[t == 0, j = 1,
   While[t <= u[[j]], j--]];
  If[j <= p, j = p + 1];

  ab = Table[{0, 0}, {i, n + 1}];

  (*Berechnung*)
  For[k = 1, k ≤ p, k++,
   For[i = j - p + k, i ≤ j, i++,
     a = (t - u[[i]]) / (u[[i + p + 1 - k]] - u[[i]]);
     ab[[i]] =
      (1 - a) ab[[i - 1]] + a ab[[i]] + (d[[i]] - d[[i - 1]]) / (u[[i + p + 1 - k]] - u[[i]]);
     d[[i]] = (1 - a) d[[i - 1]] + a d[[i]];
     w[[i]] = (1 - a) w[[i - 1]] + a w[[i]];
    ];
  ];
  Append[d[[j]] / w[[j]], #[[2]] / #[[1]] &[ab[[j]]]]
 ]

f[x_, n_] := Piecewise[{{(2 x)^n / 2, x ≤ 0.5}}, -(2 - 2 x)^n / 2 + 1];
Plot[f[x, 2], {x, 0, 1}]
```



```
tt = Table[P[f[x, 2]], {x, 0, 1, 0.01}];
ab = Transpose[tt][[3]]; tt = Transpose[Transpose[tt][[1 ;; 2]]];
Show[ListPlot[d, PlotStyle → Red, PlotRange → All],
 ListPlot[tt, Joined → True, PlotRange → All]]
```




```
Show[ListPlot[d, Joined → False, PlotStyle → Red, PlotRange → All],
 ListPlot[tt, Joined → False, PlotRange → All],
 Plot[IP[x], {x, 0, 1}, PlotStyle → Gray, PlotRange → All]]
```




```
IP[t0_] := Module[{t = t0, tt = tt, j = Length[tt], m = ab, y},
  (*j Bestimmtung*)
  If[t == 0, j = 1,
   While[t ≤ tt[[j, 1]], j--]];
  b = tt[[j + 1, 1]] - tt[[j, 1]]; y = t - tt[[j, 1]];
  {tt[[j, 2]], tt[[j + 1, 2]], m[[j]], m[[j + 1]]}.
    {1 - 3 y^2/b^2 + 2 y^3/b^3, 3 y^2/b^2 - 2 y^3/b^3, y - 2 y^2/b + y^3/b^2, -y^2/b + y^3/b^2}
]
```