```
wi[{xi_, pi_}] := 2 / ((1 - xi^2) * (pi^2));
For[n = 1, n < 10, n++, f[x_] := LegendreP[n, x];
 rr = y /. NSolve[LegendreP[n, y], y, Reals];
 rr2 = wi /@ Transpose[{rr, f' /@ rr}];
 Print["n=", n, "  -------------------------"];
 Print[rr];
 Print[rr2];
]
```