

Метод обратной параболической интерполяции

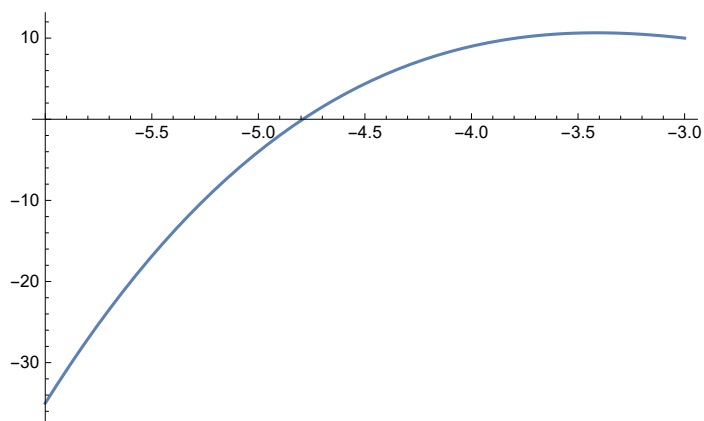
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Группа: ПМ1801

$$\text{parabolINTER}[xn2_ , xn1_ , xn_ , f] := \frac{(f[xn1] * f[xn] * xn2)}{(f[xn2] - f[xn1]) * (f[xn2] - f[xn])} + \frac{(f[xn2] * f[xn] * xn1)}{(f[xn1] - f[xn2]) * (f[xn1] - f[xn])} + \frac{(f[xn2] * f[xn1] * xn)}{(f[xn] - f[xn2]) * (f[xn] - f[xn1])}$$

$f[x_] := x^3 + 6x^2 + 6x + 1$

`Plot[f[x], {x, -6, -3}]`



```
xn2 = -0.9;  
xn1 = -0.8;  
xn = -0.5;  
prom = parabolINTER[xn2, xn1, xn, f];  
error = Input[];  
While[Abs[prom - xn] ≥ error,  
  xn2 = xn1;  
  xn1 = xn;  
  xn = prom;  
  prom = parabolINTER[xn2, xn1, xn, f];  
]  
Print["Ответ:", N@prom]
```

Ответ: -0.208712

`N@Solve[x^3 + 6x^2 + 6x + 1 == 0, x]`

`{{x → -1.}, {x → -4.79129}, {x → -0.208712}}`