

Метод обратной параболической интерполяции

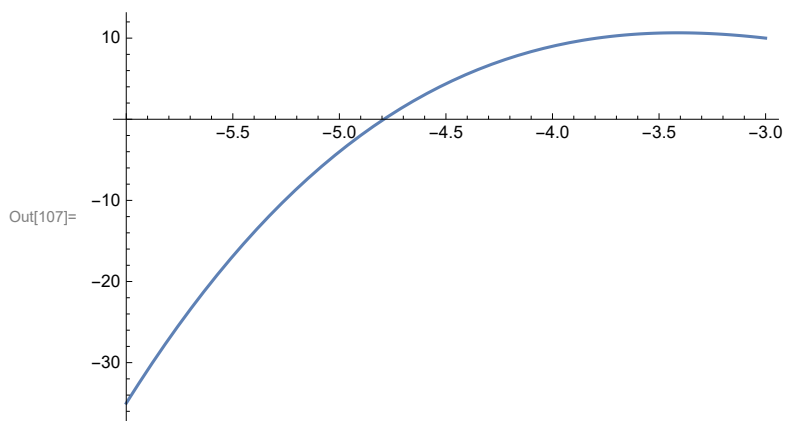
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Группа:ПМ1801

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

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

In[107]:= Plot[f[x], {x, -6, -3}]



```
xn2 = -21;  
xn1 = -11;  
xn = -8;  
prom = parabolINTER[xn2, xn1, xn, f]  
prov = False;  
While[Abs[f[prom] - 0] >= 1,  
  Print[N@prom];  
  xn2 = xn1;  
  xn1 = xn;  
  xn = prom;  
  prom = parabolINTER[xn2, xn1, xn, f];  
]  
Print["Ответ:", N@prom]  
13 879 843  
-----  
2 023 131
```

-6.86058

-5.74202

-5.13403

-4.86537

Ответ: -4.79649

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

$\{\{x \rightarrow -1.\}, \{x \rightarrow -4.79129\}, \{x \rightarrow -0.208712\}\}$