

[6.21] Evaluating polynomials

You don't need to explicitly calculate a polynomial like this:

$$2*x^3 + 3*x^2 + 4*x - 7 \rightarrow \text{result}$$

Instead, TI BASIC has a *polyEval()* function that uses less ROM space:

$$\text{polyEval}(\{2,3,4,-7\},x) \rightarrow \text{result}$$

I don't have any specific timing results, but this method is very fast. You can use this method whenever you have a sequence of powers of any function. Some examples:

$$\frac{4}{x^3} - \frac{6}{x^2} + \frac{8}{x} - 3 \quad \text{use} \quad \text{polyEval}(\{4,-6,8,-3\},1/x)$$

$$\frac{4}{[\ln(x)]^3} - \frac{6}{[\ln(x)]^2} + \frac{8}{\ln(x)} - 3 \quad \text{use} \quad \text{polyEval}(\{4,-6,8,-3\},1/\ln(x))$$

$$4[\sin(x)]^3 - 6[\sin(x)]^2 - 3 \quad \text{use} \quad \text{polyEval}(\{4,-6,0,-3\},\sin(x))$$