

Výpočet derivácie

Uvedieme niektoré možnosti výpočtu derivácie:

(%i1) g1=diff(cos(x)+x^3+5,x);

% výpočet $g1 = \frac{d(\cos x + x^3 + 5)}{dx}$

(%o1) g1=3*x^2-sin(x)

(%i2) g2=diff(cos(x)+x^3+5,x,2);

% výpočet $g2 = \frac{d^2(\cos x + x^3 + 5)}{dx^2}$

(%o2) g2=6*x-cos(x)

(%i3) g3=diff(x^sin(x),x);

% výpočet $g3 = \frac{d(x^{\sin x})}{dx}$

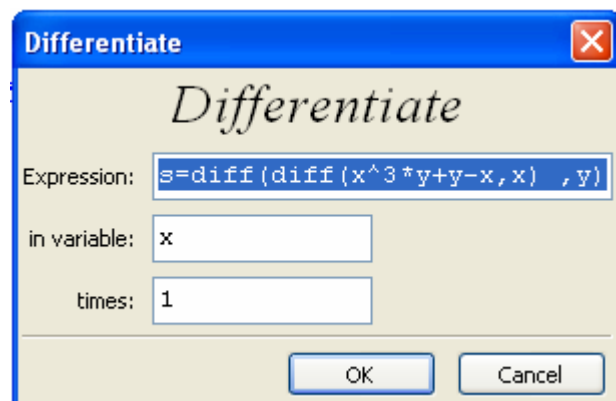
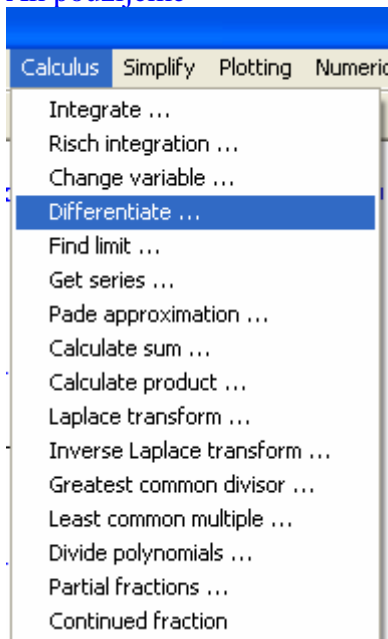
(%o3) g3=x^sin(x)*(sin(x)/x+cos(x)*log(x))

(%i4) s=diff(diff(x^3*y+y-x,x),y);

% $s = \frac{\partial^2 g(x,y)}{\partial x \partial y}$ ak $g(x,y) = x^3 y + y - x$.

(%o4) s=3*x^2

Ak použijeme



dostávame

(%i5) diff(s=diff(diff(x^3*y+y-x,x),y),x);

% $s = \frac{\partial^3 g(x,y)}{\partial x^2 \partial y}$ ak $g(x,y) = x^3 y + y - x$.

(%o5) 0=6*x