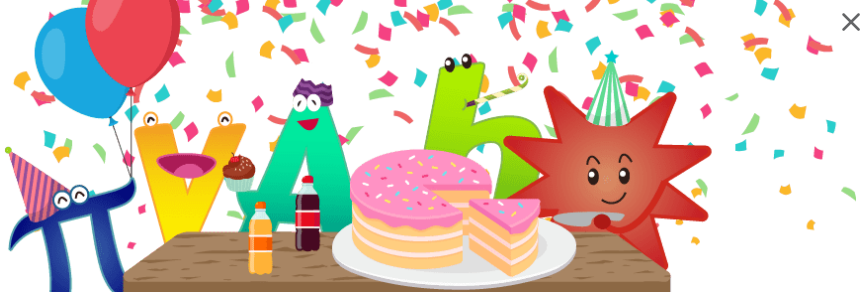

WolframAlpha computational intelligence

$$\frac{d}{dx}\left(\frac{\left(\frac{(x*x)}{R}\right)}{\left(1+\text{sqrt}\left(1-(1+k)*\frac{(x*x)}{(R*R)}\right)\right)}+d\right)$$

NATURAL LANGUAGE | MATH INPUT

CALCULUS & SUMS

Derivative

Step-by-step solution

$$\frac{\partial}{\partial x}\left(\frac{\frac{x\,x}{R}}{1+\sqrt{1-\frac{(1+k)\,(x\,x)}{R\,R}}}+d\right)=\frac{R\,x\,\sqrt{1-\frac{(k+1)\,x^2}{R^2}}}{R^2-(k+1)\,x^2}$$

Alternate form assuming k, R, and x are real

$$\frac{R\,x}{\sqrt{R^4-(k+1)\,R^2\,x^2}}$$

Alternate forms

$$\frac{x}{R\sqrt{1-\frac{(k+1)\,x^2}{R^2}}}$$