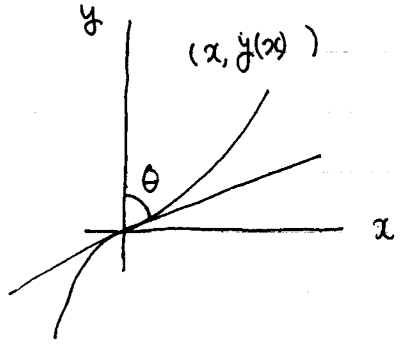
where K is the curvature of C at the origin and θ is the angle that the tangent to C makes with the y-axis.

Pf

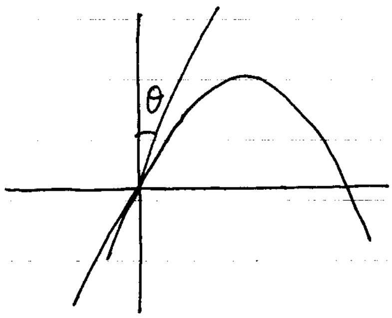


$$K = \frac{|y''|}{\left(\sqrt{1+y'^2}\right)^3} = \frac{|y''|}{\left(\sqrt{1+\cot^2\theta}\right)^3}$$

$$= \frac{|y''|}{\frac{1}{|\sin\theta|^3}}$$

$$\Rightarrow |y''| = \frac{K}{|\sin^3\theta|}.$$

For example,



$\sin\theta > 0$

$y'' < 0$

$$\Rightarrow y''_{r_0} = \frac{K}{\sin^3\theta} > 0$$

So just accept $y''(0) = \frac{K}{\sin^3\theta}$ in case $y''(0) > 0$. Or define K by $\sin^3\theta\, y''(0)$.

Consequently, the Reiss relation may be expressed in the very pretty metric form

$$\sum_{\nu} \frac{K_\nu}{\sin^3\theta_\nu} = 0.$$

where K_ν is the curvature of C at P_ν and θ_ν is the