of abscissas and calling the coordinates of \( R, P \) and \( N \): \( x_1 y_1, x_2 y_2 \) and \( x_3 y_3 \), we have first the two linear equations:
\[
\begin{align*}
y_1 &= ax_1 + b \\
y_2 &= ax_2 + b
\end{align*}
\]
from which follows:
\[
y_1 - y_2 = a(x_1 - x_2) \quad (1)
\]
\( x_2 y_2 \) being also a point in the parabola, we have the relation:
\[
y_2^2 = 2px_2 \quad (2)
\]
and taking the differential of \( x_4 \):
\[
2y_2 \frac{dy_2}{dx_4} = 2p
\]
\[
\frac{dy_1}{dx_4} = \frac{p}{y_1}
\]
This is the equation for the tangent to point \( P \); but \((a)\) also denotes this tangent in equation (1), hence we have \( a = \frac{p}{y_2} \) and (1) obtains the form:
\[
y_1 - y_2 = \frac{p}{y_2} (x_1 - x_2)
\]
\[
y_2 = \frac{2px_2}{y_1} + \frac{p}{y_1} (x_1 - x_2)
\]