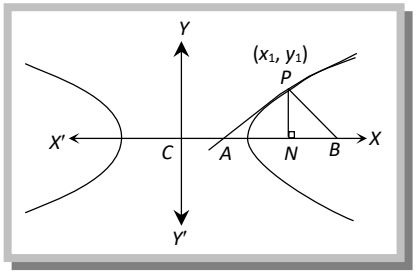
Subtangent and Subnormal of the Hyperbola.

Let the tangent and normal at $P(x_1, y_1)$ meet the *x*-axis at *A* and *B* respectively.



Length of subtangent $AN = CN - CA = x_1 - \dfrac{a^2}{x_1}$

Length of subnormal $BN = CB - CN = \dfrac{(a^2 + b^2)}{a^2} x_1 - x_1 = \dfrac{b^2}{a^2} x_1 = (e^2 - 1)x_1$