Transformation Ellipsoid Koordinaten ↔ kart. Koord.

1) $\varphi, \Lambda, H \rightarrow x, y, z$ (Formel 1.11)

a) Bessel-Ellipsoid $a = 6\,377\,397{,}155\,m$

$b = 6\,356\,078{,}963\,m$

Punkt P: $\varphi = 10^\circ\,18'$
$\Lambda = 79^\circ\,45'$
$H = 200{,}000\,m$
} Indien

$c = 6\,398\,786{,}848\,m$ $e^2 = 0{,}006\,674\,372\,231$

$e'^2 = 0{,}006\,719\,218\,742$ $V = 1{,}003\,246\,931$

$x = 1\,116\,683{,}291\,m$
$y = 6\,175\,339{,}494\,m$
$z = 1\,132\,838{,}626\,m$
} Lösung

2) $x, y, z \rightarrow \varphi, \Lambda, H$ (Formeln 1.12 - 1.14)

b) GRS 80 - Ellipsoid $a = 6\,378\,137{,}000\,m$

$b = 6\,356\,752{,}314\,m$

Punkt Q: $x = 4\,083\,364{,}416\,m$
$y = 1\,183\,322{,}147\,m$
$z = 4\,739\,225{,}329\,m$

Lösung: $\Lambda = 16^\circ\,09'\,40{,}0000''$
$\varphi = 48^\circ\,17'\,50{,}0000''$

$H = 400{,}001\,m$