

Re: Calculating a Distance on the Surface of the Earth

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Bob Ball <bobball@xxxxxxxxxxxxxxxxxxxxxx> writes:

The line he dropped to the earth's surface was shown by angle and symbol as a right angle to the original tangential line. Straight down to the earth's surface to me would be a radial line, one from the end of the 200km line toward the center of the earth.

There's a third possibility too: the "vertical" dropped line is perpendicular to the earth's surface (or to the surface of a pool of liquid) at the point it reaches the surface. This is the usual definition of a "vertical" line to a surveyor.

If the earth was spherical, or is assumed to be a sphere, then a vertical line perpendicular to the surface also goes through the centre of the earth. But with an ellipsoidal earth, a vertical line misses the centre, and a radial line isn't perpendicular to the surface (except at the poles and on the equator).

Dave

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