SURVEYORS USE RECTANGULAR FLAT-EARTH COORDINATES (This is what surveyors are good at.)

Surveyors measure distances:

- Horizontal distances by taping etc.
- Vertical distances by differential leveling.
- Slope distances by taping, EDM, or GPS.
 - 1. Horizontal distance = slope distance x cos (vertical angle).
 - 2. Horizontal distance = slope distance x sin (zenith direction).
 - 3. Vertical distance = slope distance x sin (vertical angle).
 - 4. Vertical distance = slope distance x cos (zenith direction).

Surveyors measure angles:

- Horizontal angles are
 1. Measured by repetition or computed from directions.
 2. Used to compute azimuths.
- Vertical angles (zenith directions or vertical angles).

Surveyors compute:

- Coordinates based upon traverse data (horizontal)
 - 1. Horizontal distance x sin (azimuth) = Departure 2. Horizontal distance x cos (azimuth) = Latitude
- Elevations based upon (Vertical)
 - 1. Differential leveling backsights/foresights
 - 2. Trig height differences vertical distances

IS IT CORRECT TO USE FLAT EARTH DISTANCES? WE'LL ASK AGAIN.