

Exercise Three for GSDM Seminar

Name: _____

Date: _____

Geodetic Forward and Geodetic Inverse Computations – see www.globalcogo.com/BK3andBK4.xlsx

- I. Use BK3 and the following data to compute the ECEF 3-D coordinates for the NW Corner of Section 31, T23S-R1E, NM Principal Meridian.

| West ¼ Corner Section 31, T23S-R1E | Vector components W ¼ Cor. to NW Corner, Sec 31 |
|------------------------------------|---|
| X = -1,568,572.7788 m | $\Delta X = 125.814$ m |
| Y = -5,166,694.9985 m | $\Delta Y = 412.072$ m |
| Z = 3,385,893.5160 m | $\Delta Z = 679.570$ m |

- II. Use BK4 and the following data to compute the ECEF coordinate differences from the SW Corner of Section 31, T23S-R1E, NM Principal Meridian to the S ¼ Corner of said Section 31.

| SW Cor. Sec. 31, T23S-R1E (92) | S ¼ Cor. Sec. 31, T23S-R1E (92) |
|--------------------------------|---------------------------------|
| X = -1,571,430.672 m | X = -1,567,928.051 m |
| Y = -5,164,782.312 m | Y = -5,167,339.573 m |
| Z = 3,387,603.188 m | Z = 3,385,213.310 m |

These points are part of a class project posted at www.globalcogo.com/3DGPS.pdf