

LAB 2 – SUBMITTAL

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1. **(10 pts)** Given NAD27 Lat: 36.05544308 Lon: Lon: -100.58169940

UTM NAD 27 meters	UTM NAD 83(1986) meters
N: 3,991,260.257	N: 3,991,255.259
E: 357,501.574	E: 357,539.154

Distance = $\text{Sqrt}((N_{27} - N_{83})^2 + (E_{27} - E_{83})^2)$ ____37.9109008598 _ meters.

2. **(10 pts)** Using the older topo...

Feature	Decimal Degrees	Degrees Minutes	Degrees Minutes Seconds
<i>EXAMPLE: Eller O&M Building</i>	30.6178°, -96.3367°	30° 37.068', -96° 20.203'	30° 37' 4", -96° 20' 12"
Texas A&M golf course building	30.6165°, -96.3337°	30° 36.99', -96° 20.022'	30° 36' 59", -96° 20' 1"
Lake Placid @ North center dam release	30.5930°, -96.2584°	30° 35.58', -96° 15.504'	30° 35' 34", -96° 15' 30"
Easterwood Airport main terminal building	30.5911°, -96.3589°	30° 35.466', -96° 21.534'	30° 35' 27", -96° 21' 32"
Jack K. Williams Administration Building	30.6184°, -96.3361°	30° 37.104', -96° 20.166'	30° 37' 6", -96° 20' 9"

3. (10pts) Using coordinate conversion...

Feature	NAD 27 fts	NAD 83 (2011) fts
Texas A&M golf course building	N 368,055.140 E 3,257,840.782	N 10,210,635.613 E 3,554,318.631
Lake Placid @ North center dam release	N 360,373.964 E 3,281,824.306	N 10,202,954.285 E 3,578,302.305
Easterwood Airport main terminal building	N 358,539.643 E 3,250,249.004	N 10,201,120.143 E 3,546,726.781
Jack K. Williams Administration Building	N 368,718.547 E 3,257,061.509	N 10,211,299.027 E 3,553,539.351

4. (5pts) Search for a well...

NAD 27 fts	NAD 83(1986) fts
N: 731,064.465	N: 4,011,930.745
E: 2,246,337.700	E: 902,373.879

5. (5pts) NAD83 parameters never change...

NAD83 DMS.SSSS	NAD83 State Plane TxSC FTS	NAD83 (2011) State Plane TxSC FTS
Lat: N360020.77200	N: 4,011,930.425	N: 4,011,916.957
Lon: W1004001.80480	E: 902,373.271	E: 902,497.611

6. (10pts) Review and Search the Natural Resources Code for State of Texas.

<https://statutes.capitol.texas.gov/Docs/SDocs/NATURALRESOURCESCODE.pdf>

Zone		NAD83 (m)	NAD 27 (ft)
Texas North	Std Parallels: 34° 39' ____ 36° 11' ____ Central Meridian Lat: 34° 00' _ Lon: -101° 30'	x: 200,000 ____ y: 1,000,000 ____	x: 2,000,000 ____ y: 0 ____
Texas North Central Note: 2 Central Meridians are listed for this zone, only NAD27 meridian shown for brevity	Std Parallels: 32° 08' 33° 58' Central Meridian Lat: 31° 40' Lon: -97° 30'	x: 600,000 y: 2,000,000	x: 2,000,000 y: 0
Texas Central	Std Parallels: 30° 07' 31° 53' Central Meridian Lat: 29° 40' Lon: -100° 20'	x: 700,000 y: 3,000,000	x: 2,000,000 y: 0
Texas South Central	Std Parallels: 28° 23' 30° 17' Central Meridian Lat: 27° 50' Lon: -99° 00'	x: 600,000 y: 4,000,000	x: 2,000,000 y: 0
Texas South	Std Parallels: 26° 10' 27° 50' Central Meridian Lat: 25° 40' Lon: -98° 30'	x: 300,000 y: 5,000,000	x: 2,000,000 y: 0