

Chapter 7 Homework – GIS

Matching Definitions

1. _____ Traverse
 2. _____ GIS
 3. _____ COGO
 4. _____ GPS
 5. _____ PLSS
- A - A method for calculating coordinate points from surveyed bearings, distances, and angles.
 - B - Line work and line weight are two important elements used on a hand drawn cadastral maps to denote important features.
 - C - To move along the course of a legal description in order to define or trace a property boundary.
 - D - A complex system of constellation satellites orbiting the Earth that can determine the location of a receiver on the ground.
 - E - A set of numbers which describe the distance north (or south) and east (or west) from a monument or reference point.
 - F - The art of representing records on a plane surface such as paper, linen or mylar with aid of instruments.
 - G - A way of subdividing and describing land in the United States by a rectangular system of Section Township and Range surveys called the public land survey system.
 - H - A computer system that integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information.

True or False

6. T F Drafting parcels with GIS uses all of the same six principals as drafting descriptions by hand, but the methods for completing them are different.
7. T F GIS parcel data always replaces a recorded document's legal description and any survey data.
8. T F In GIS drawing a curve is much more difficult while using the traverse tool from the COGO toolbar.

Draw the following seven parcel descriptions using the digital drafting tools that are available to you in your county.

NOTE: If your county uses ArcGIS there is data available for download to help complete the exercise.

Parcel 1

Part of Lots 12 & 13 Block 03 Plat B Willard City Survey. Beginning at a point located South $00^{\circ}18'32''$ East 53 Feet from the Northwest corner of said Lot 13. Running thence South $89^{\circ}41'19''$ East 164 Feet, Thence North $00^{\circ}18'32''$ West 53 Feet, Thence South $89^{\circ}41'19''$ East 100 Feet to the Northeast corner of Lot 13, Thence South $00^{\circ}18'32''$ East 153 Feet, Thence North $89^{\circ}41'19''$ West 264 Feet to the west line of Lot 12, Thence North $00^{\circ}18'32''$ West 100 Feet to the point of beginning.

Parcel 2

The West half of Lot 05 and the South 1 rod of Lot 4 Block 03 Plat B Willard City Survey.

Parcel 3

Beginning at a point 492.72 feet South (495.72 of record) along the section line from the North quarter corner of Section 3 Township 9 North Range 3 West Salt Lake Base and Meridian. Thence North 164 feet, thence East 207 feet, thence South 90 feet, thence West 76 feet, thence South 74 feet, thence West 131 feet to the point of beginning.

Parcel 4

Part of the Northeast quarter of Section 03 Township 09 North Range 03 West Salt Lake Base and Meridian. Beginning at a fence post located 492.72 feet South (495.72 by record) along the section line and South $89^{\circ}31'19''$ East 33 feet from the Northwest corner of the Northeast quarter of said section. Running thence along a fence line the following four courses. (1) South $89^{\circ}31'19''$ East 98.00 feet (East by record), (2) North 74 feet, (3) South $89^{\circ}31'19''$ East 76 feet (East by record), (4) North 90 feet, Thence South $89^{\circ}31'19''$ East 390.67 feet, thence South $03^{\circ}39'12''$ West 159.77 feet, thence South $89^{\circ}06'07''$ West 173.28 feet, thence South $00^{\circ}43'44''$ East 173.62 feet, thence North $89^{\circ}16'22''$ West 383.46 feet, thence North 171.61 feet to the point of beginning.

Parcel 5

Beginning at a point on the quarter section line 44 rods South of the Northwest corner of the Northeast quarter of Section 3 Township 9 North Range 3 West Salt Lake Base and Meridian. Running thence South 350 feet along said quarter section line, thence East 160 feet, thence South 52 feet, thence East 469.5 feet, thence North 402 feet, thence west 50 feet, thence South 350 feet, thence west 300 feet, thence North 40°36'05" East 460.98 feet, thence West 579.5 feet to the point of beginning.

Parcel 6

Part of the NW quarter of Section 3, Township 9 North, Range 3 West, Salt Lake Base and Meridian. Beginning at a point South 10° East 106.37 feet and North 80° East 72.48 feet from the Northwest corner of said section. Running thence North 63°44'45" East 75 feet; thence South 26°15'15" East 120.87 feet; thence South 70° West 75.45 feet; thence North 26°15'15" West 112.65 feet' to the point of beginning.

In ArcGIS, rotate the drawing of parcel 6 to match the nearby section line and existing parcel.

Parcel 7

Beginning at point North 0°13' East 195.63 feet along the section line from the Southwest corner of Section 34, Township 10 North, Range 3 West, Salt Lake Base and Meridian. Running thence North 0°13' East 362.81 feet; thence North 75°56'26" East 140.33 feet; thence to the left 260 feet along the arc of a curve whose radius is 356.37 feet whose chord bears South 34°57'37" East 254.22 feet; thence South 29°18'36" West 43.50 feet; thence to the right 317.16 feet along the arc of a curve whose radius is 295.05 feet and whose chord bears South 60°06'18" West 302.11 feet to the point of beginning.