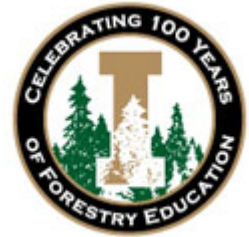


College of Natural Resources

Department of Forest Resources Forest Measurements and Inventory Laboratory 4



Part 1: Compass Skills and Surveying

Objectives of this laboratory exercise:

- Be able to use your compass and tape to shoot bearings and distance to objects
- Be able to set declination on your compass
- Be able to use your compass and paces to find old survey markers, plot centers, monitoring trees
- Be able to convert between feet and meters

Location: Meet at the **Gold Fire Hydrant beside the Old Arboretum**

Materials and Supplies:

- Clipboard + Pencils
- This Sheet – Please bring with you
- Loggers Tape
- 100 foot tapes (supplied)
- Flags (supplied)
- Calculator (this will help!)

Part 1: A 100ft measuring tape will be laid out on flat ground, with a flag placed at the beginning and at 66 feet. The goal of this first task is for **you** to determine how many of your paces are in a chain and how many of your paces are in 100m. Remember a pace is every 2nd step.

Walk 66 feet and count how many paces you take: _____ paces

Walk the 66 feet again and count your number of paces: _____ paces

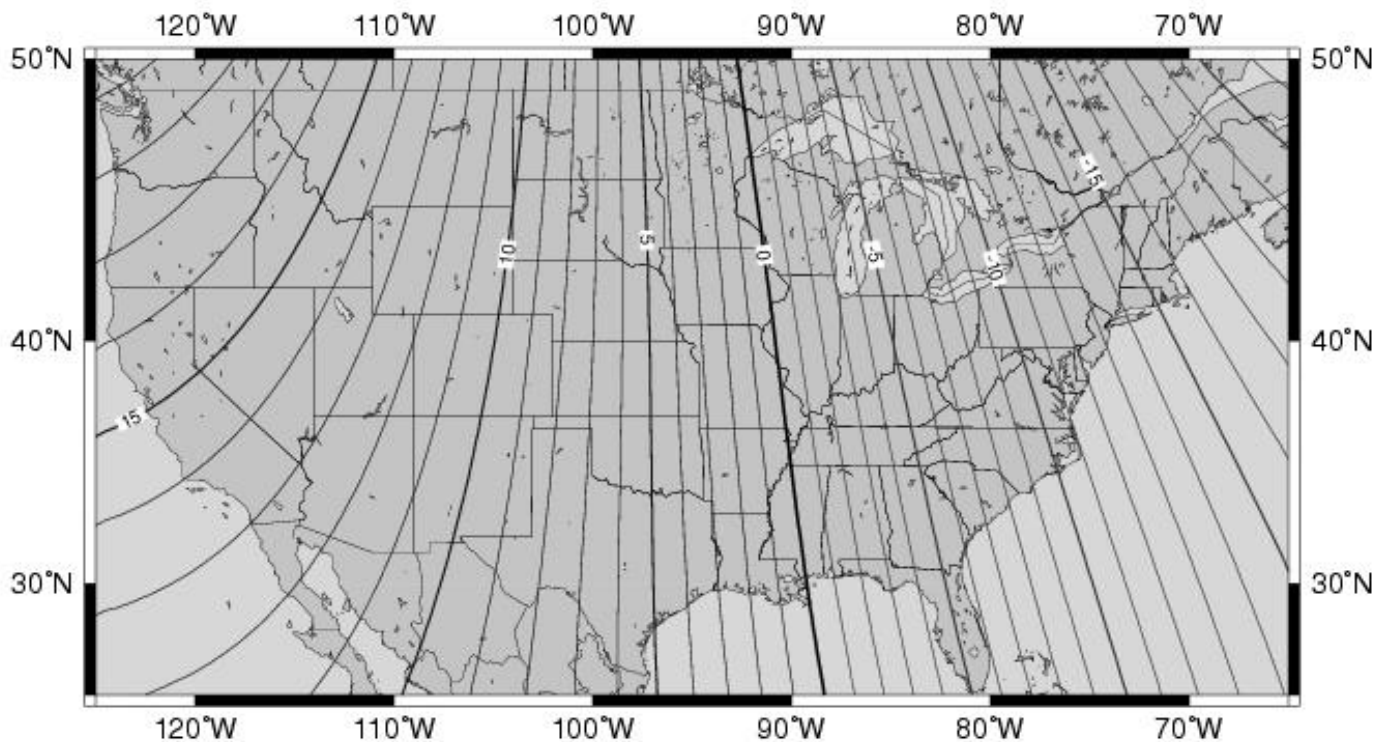
Average of the two: _____ average paces

Calculate how many paces are in:

100 feet = _____ paces

Part 2: Setting Declination on your compass

Based on this figure below identify the appropriate declination for Moscow, Idaho:



Part 3: The Fundamentals of Stem Mapping

From the identified plot center, first face Due North and then by moving clockwise, use your compass and tapes/paces to measure the bearing and distance to all trees within a 1/20acre circular plot

Tree Number	Azimuth	Bearing	Distance (Feet)	Distance (Meters)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Part 4: Finding Old Survey Locations

In a group, using only your pace and compasses find an aluminum tag via the following set of directions:

1. The marker lies in Moscow, at the University of Idaho campus, at the base of an ~12 inch (DBH) deciduous tree, 84 feet at 260 degrees from a spruce tree, 128 feet at 172 degrees from a gold fire hydrant, on a hill south east of the southwest corner of the Physical Education Building.
2. The marker lies in Moscow, at the University of Idaho campus, at the base of a ~22 inch (DBH) PIPO, 66 feet at 146 degrees from an ~18" (DBH) PSME, 140 feet at 182 degrees from a ~8 inch (DBH) THPL, 100 feet at 232 degrees from a grey rock at the southwest corner of the Administrative Building parking lot.
3. The marker lies in Moscow, at the University of Idaho campus, in a container on the ground, 9 meters at 300 degrees from a spruce tree, 10 meters at 254 degrees from a PIPO with a multi-forked crown, 27 meters at 222 degrees from a leaning cottonwood tree, 25 meters at 180 degrees from a National Geodetic Survey benchmark (BM-49) on a hill 18 meters south of the tennis courts at the southwest corner of the Physical Education Building.
4. The marker lies in Moscow, at the University of Idaho campus, in a rock wall 159 feet at 195 degrees from a trees, 55 meters at 90 degrees from a PIPO, 271 feet at 277 degrees from a light pole with a large cylindrical base, 50 meters south of the southwest corner of the tennis courts at the southwest corner of the Physical Education Building.