

Staying Found

Field Day Exercises 2023

Objective: Practice using your map and compass before your practice hike.

For this exercise, use the map labeled "Map for Field Compass Exercise" at the back of this packet and the Green Trails map.

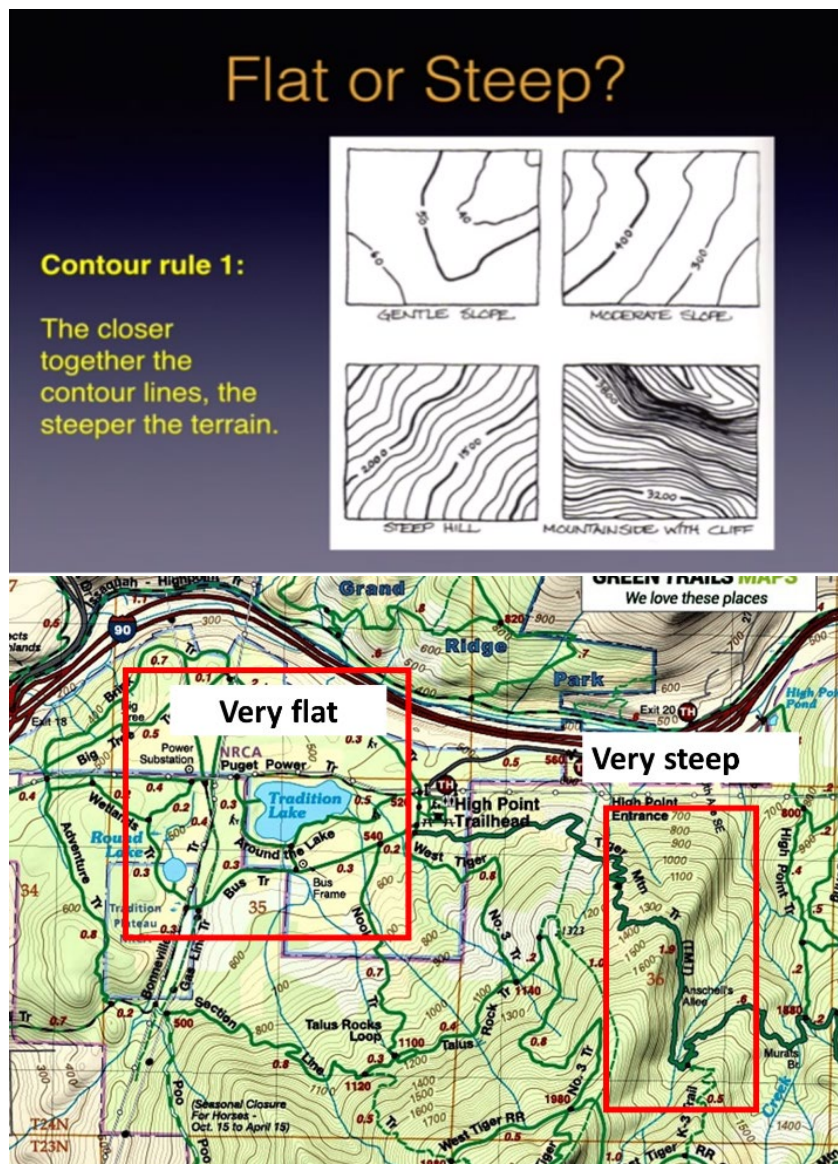
1. Compare the map labeled "Map for Field Compass Exercise" to the Green Trails map.

- How do the scales of the two maps differ? Explain what that means.
- When might it be more useful to have the Map for Field Compass Exercise?
- When might it be more useful to have the Green Trails map?

2. Get familiar with the terrain on the "Map for Field Compass Exercise":

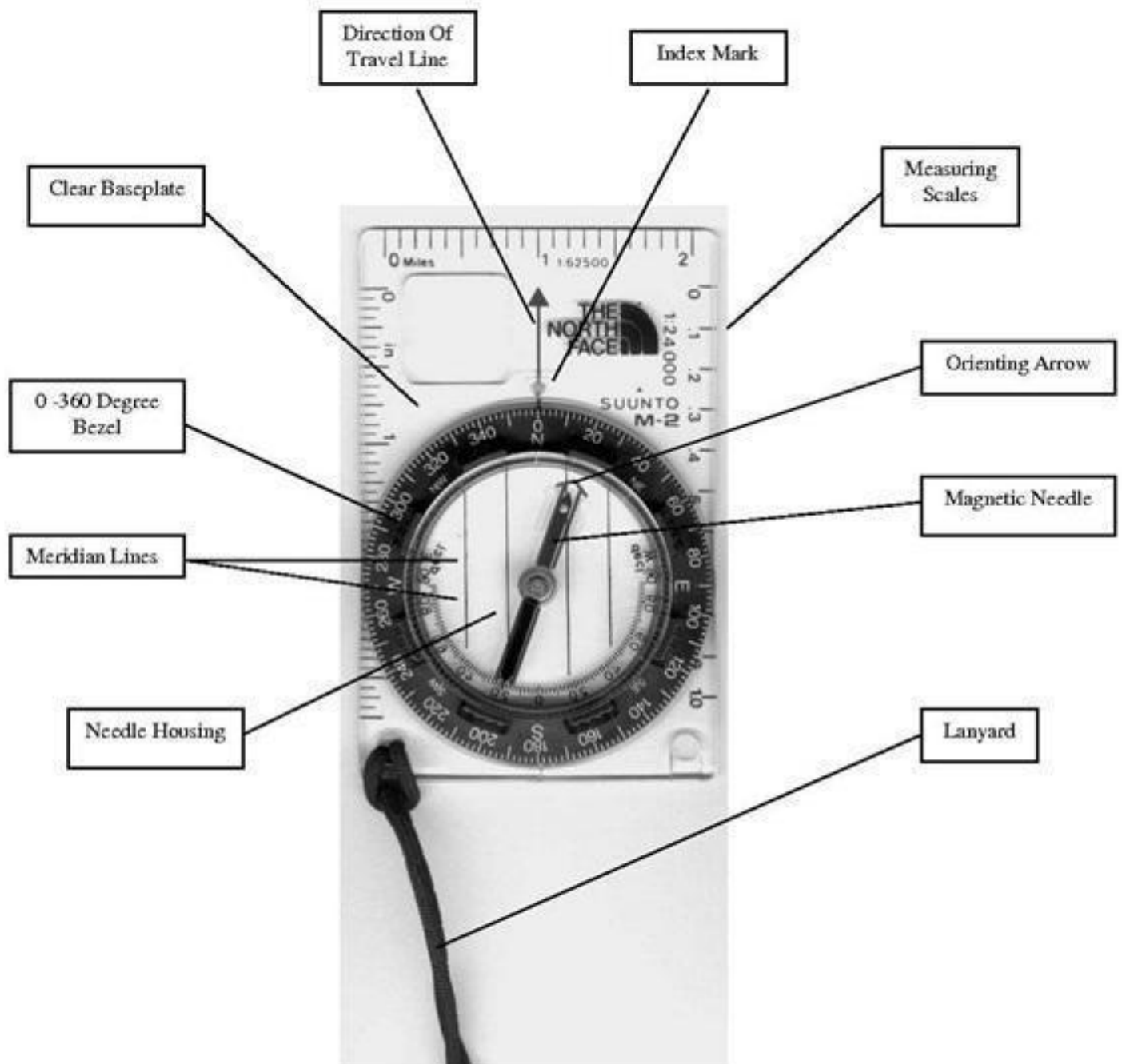
- Point out a ridge, a valley, a knob, and a flat area.
- Point out some of the "handrails" on the map that you might be able to use to figure out where you are.
- Find the elevation contour lines. What is the contour interval? Now look at the Green Trails map – what is the contour interval on that map?
 - What is the approximate elevation at Round Lake (which is Southwest of the Tradition Lake)?
 - What is the approximate elevation northwest of the word "Cave" (which is at the star at the very center of the map).

Interpret the Map Contours



1. What is the contour interval in the map above?
2. Identify a flat area.
3. Identify a very steep area.
4. Identify a gully, or valley (gullies go up). What do you often find in a valley?
5. Identify a ridge (ridges roll down).
6. Identify a section of the Tiger Mountain Trail with switchbacks.

Using the diagram below, review the parts of a compass.



For the following exercise, use map labeled Stations 1 and 2.

1. Orient the map. North is always up. Compare the map to your surroundings.
2. Mark the 4 cardinal directions on the map. A direction is a letter (e.g., N, S).
3. Mark the bearings for N, S, E, and W on the map (0/360, 90, 180, 270). A bearing is a number (e.g., 30 degrees).
4. Stand up and face each direction: S E, N, W
5. Face each bearing: 0, 90, 270, 180. Call out the direction for each bearing.
6. What direction are you facing at:
 - a. 30 degrees
 - b. 280 degrees
 - c. 200 degrees
 - d. 100 degrees

ONCE ALL GROUPS HAVE COMPLETED THESE EXERCISES, WE WILL START THE STATIONS.

STATIONS

- **Station 1: Tiger Mountain exercise, at the shelter**
- **Station 2: Bathroom exercise, at the shelter**
- **Station 3: Using Gaia, anywhere that is convenient**
- **Station 4: The parking lot and the Puget Power Trail**
- **Station 5: Navigation planning, anywhere that is convenient**

Station 1: Tiger Mountain Exercise, at the shelter

- On your map, measure the bearing from the tree with a ribbon to Tiger 3 using the arrow provided. We will use this information later.
- Find the SE pole of the shelter. Walk to the pole.
- Now set your compass to the bearing you found on the map. What direction are you facing?
- Look for a tree with a ribbon. From where you are standing, take a bearing.
- Now walk to the tree following the bearing. It can be challenging to follow a bearing if there are a lot of obstacles in your way, as there are here. What can you do in this situation to arrive at your destination safely?
 - Site the object, put the compass away, and walk around the obstacles safely.
- Walk to the object. Standing immediately in front of it, face the mountain. Take a bearing. Does it match the bearing you took on the map?
- If you wanted to walk from the shelter to the mountain following a compass bearing, how accurate would the bearing have to be? Could you be a few degrees off here or there and still arrive?
- What if you wanted to reach a particular trail on the mountain that can only be reached via the trailhead? Could you be a few degrees off here or there and still arrive at that precise location?

Station 2: Bathroom Exercise, at the shelter

- On your map, measure the bearing from the SW pole of the shelter to the chimney on the bathroom.
- Walk to the SW pole on the shelter.
- Take a bearing from the pole to the chimney. What is the bearing? What direction are you facing?
- Does your answer match the bearing on the map?
- Pull out your cell phone and find the compass on Gaia. Take the bearing to the chimney. Is this more or less difficult than using your compass?
- What can you do to improve the accuracy of your bearings?
 - Hold the compass flat.
 - Line up behind one another so that we're all taking the bearing from the angle.
 - Double-check your work.

Station 3: Using Gaia (anywhere that's convenient)

- Pull out your phone and open the Gaia app.
- On an I-phone, click on Saved, then click on the three lines in the upper left corner. On an Android, click on Saved, then All.
 - What is the difference between Tracks, Routes, Waypoints, Maps and Hikes?
- Click on Map at the lower left of the screen. Hit the target icon in the upper right. Where did it take you? Click the plus symbol and Add Waypoint (My Location). Name and save it.
- Click on Saved. Now pull up the route you drew at home.
- Click on the plus icon and add a waypoint at the parking lot and mark it CAR. Note the difference between Waypoint and Waypoint (My Location).
- What happens if you do not download the map before you leave home and you have no Internet service?
- How can you preserve battery life?
- When is it helpful to record a track? What is the disadvantage of recording a track?
- While you are in the field, take a picture using your Gaia app. Pictures also serve as waypoints.
- Do you have any questions?

Station 4: The Parking Lot (4A) and the Puget Power Trail (4B)

4A: Walk to the parking lot. Cross at the crosswalk and stand in the grid so everyone is out of the traffic. Use the map of the parking lot.

- Mark N, S, E, and W on your map. Add the bearing for each cardinal direction.
- Compare the map to your surroundings.
- Standing on the line marked A, face the antenna at the other end of the parking lot. The group can line up behind one another.
- Take a bearing. What is the result? What direction are you facing?
- Turn around 180 degrees. What direction must you be facing? What is that bearing?
- Without using your compass, what direction is the bathroom, roughly? What direction is the highway, roughly?
- Compare your results to the map.
- What could be some challenges of taking a bearing in a parking lot next to a car or under a power line?

4B: Now walk to the intersection of the Puget Power Trail and the Swamp Trail. Use the map for Field Compass Exercise.

- Using your map, orient your body to North.
- Without looking at your compass, what is the direction of the Swamp Trail?
- Turn your body to face the parking lot. What direction are you facing?
- Turn around 180 degrees. What direction are you facing now?
- Which direction is the Main Trail?
- Pull out your phone and open Gaia. Find your location on the map. Compare the map to your surroundings.

In a situation like this, where there are only four choices, it doesn't really matter if you are precise. There's only one trail in each direction. When would it matter?

Station 5: Navigation Planning, at the shelter

Return to the shelter to discuss the route you will be taking today, the Pre-Day Hike Navigation Planning Checklist, and the Pace chart.

Once you have completed the stations, you are ready to go on your hike!

Pre-Day Hike Navigation Planning Checklist

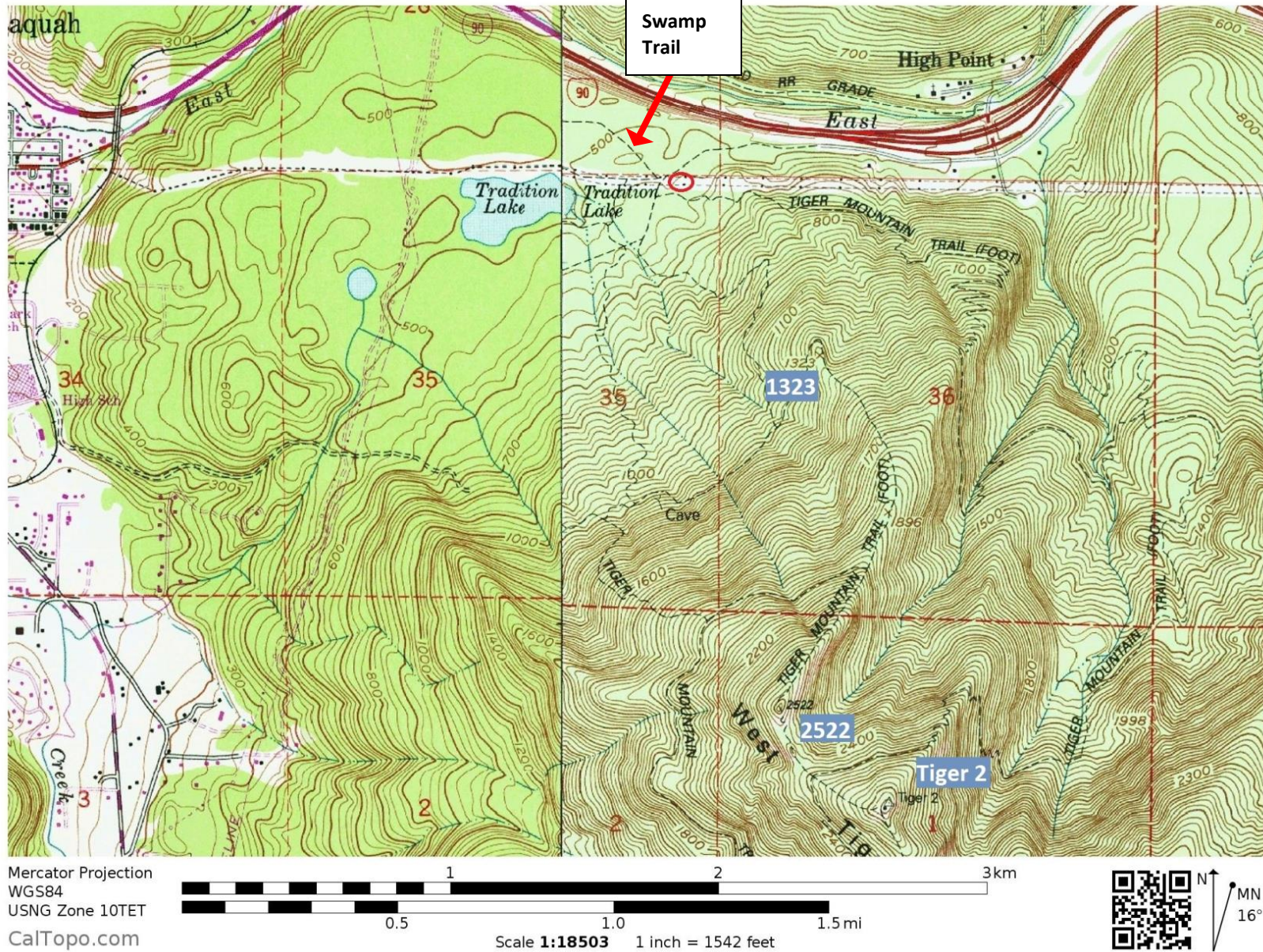
Task	Notes
<ul style="list-style-type: none"> ● Print out or purchase a detailed topographic map covering your entire route, preferably with enough surrounding terrain to allow you to identify surrounding peaks or terrain features, access to water, camping areas, if applicable. 	
<ul style="list-style-type: none"> ● Trace the planned route to the target destination on the map. 	
<ul style="list-style-type: none"> ● Identify and highlight major terrain features, slope, handrails along your route as well as key checkpoints: junctions, stream crossings, roads/powerlines, ridges or knobs, etc. 	
<ul style="list-style-type: none"> ● Jot down distances, elevations, approximate times and bearings of travel to each checkpoint and how long you expect to take to complete your entire route. 	
<ul style="list-style-type: none"> ○ Leave a buffer for extra breaks or emergencies. 	
<ul style="list-style-type: none"> ○ Identify fallback options for shortening the route if needed. 	
<ul style="list-style-type: none"> ● Establish a meeting time and a safe turnaround time. 	
<ul style="list-style-type: none"> ● Consider items you will need: parking passes, trailhead directions, and any special gear for known trail hazards. 	

At the Trailhead Navigation Checklist

Task	Notes
<ul style="list-style-type: none"> ● On the map, review the route, distances and elevation gain as well as bailout trail options and any trail hazards to be aware of. 	
<ul style="list-style-type: none"> ● Review the first few checkpoints to look out for and approximate time to reach them. Put particular focus on checkpoints that involve hazards or the potential to get off track. (Keep your map in a convenient location and follow along.) 	
<ul style="list-style-type: none"> ● Review the expected timetable for the trip (lunch and turnaround place and time). 	
<ul style="list-style-type: none"> ● Check your altimeter against your map. 	
<ul style="list-style-type: none"> ● Confirm your compass and any apps you're using are open. 	
<ul style="list-style-type: none"> ● You may wish to put your phone in airplane mode. 	
<ul style="list-style-type: none"> ● Check the start time on your watch. 	

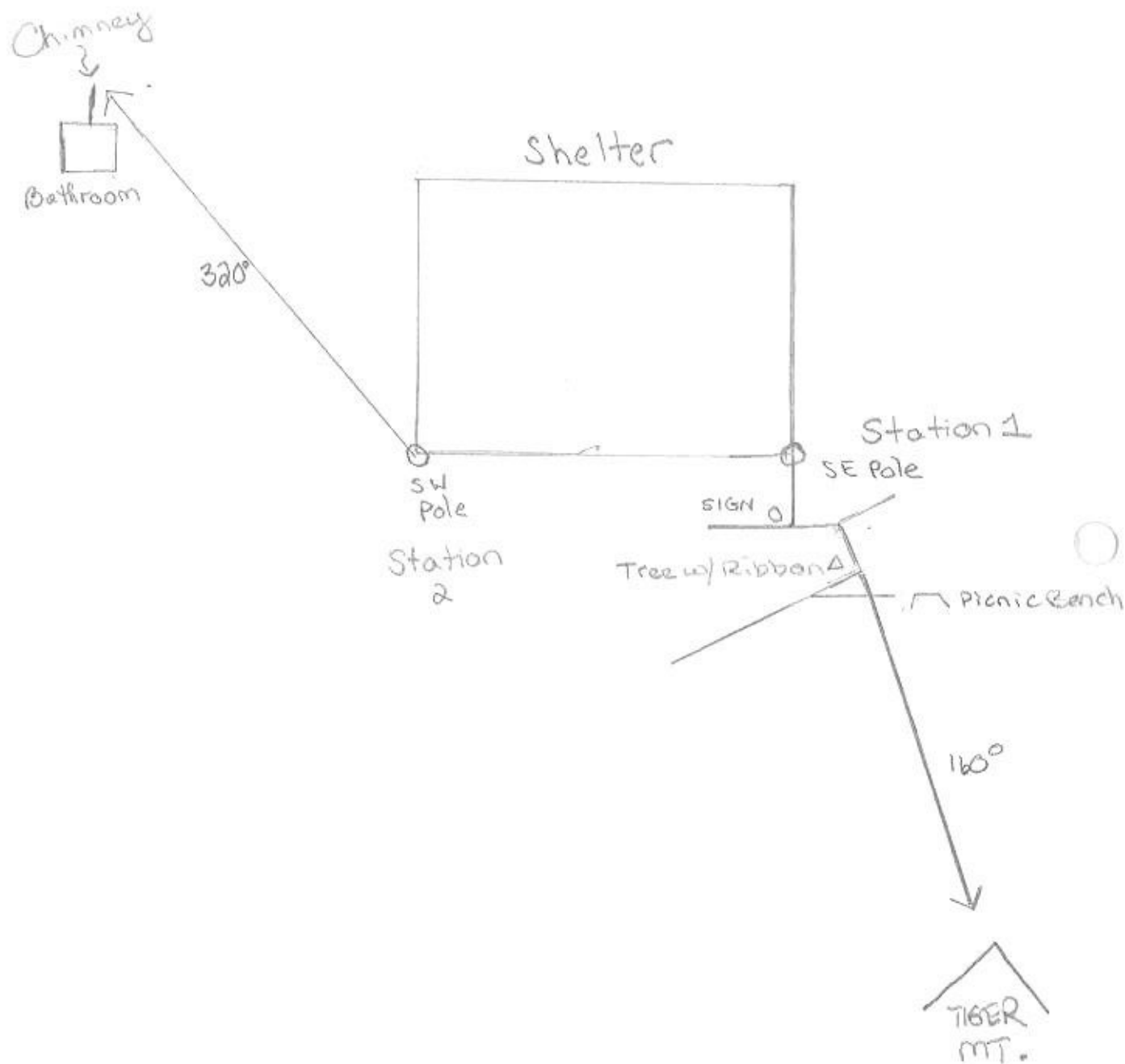
TIME IN MINUTES TO COVER A DISTANCE AT A CERTAIN PACE					
	MILES PER HOUR				
DISTANCE (MILES)	0.5	1	1.5	2	2.5
0.1	12	6	4	3	2
0.2	24	12	8	6	5
0.3	36	18	12	9	7
0.4	48	24	16	12	10
0.5	60	30	20	15	12
0.6	72	36	24	18	14
0.7	84	42	28	21	17
0.8	96	48	32	24	19
0.9	108	54	36	27	22
1	120	60	40	30	24
MILES TO TRAVEL / MPH = HOURS TO TRAVEL X 60 = MINUTES					

Map for Field Compass Exercise



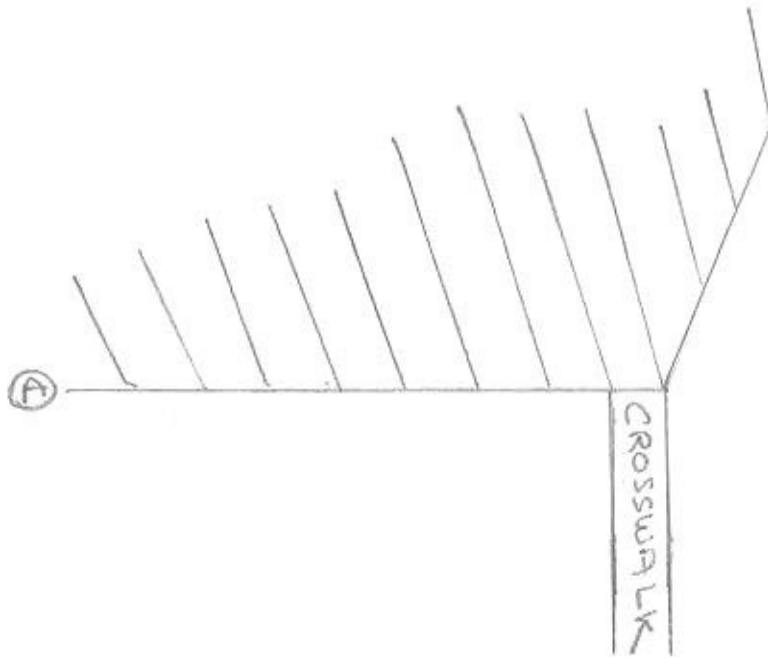
STATIONS 1 + 2

Not in any way, shape or form
drawn to scale



Parking Lot
Station 4

Don't even think
this map is
drawn to
scale!



Antenna


Puget Sound Trail
Station 5

Extremely
not
to
scale
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