NAVIGATION EXERCISE # 2 - ANSWERS

Practice finding positions and courses on a Chart.

Notes and guidelines: Chartlet based on Small Boat Chart 18445 Page A, other charts of the same area may also be used, if so your answers may be slightly different. The Chartlet covers West Point to Possession Pt. Print Chartlet 11x19 in. Chart Variation 17° 30’E. All sightings and courses are assumed to have 0 Deviation. Adding or subtracting 180° from a heading allows the opposite side of the Compass Rose to be used, this is also called finding the reciprocal.

A) You take a bearing of 174° M to a Yellow “SF” Buoy and 040° M to a light on the south end of a Breakwater off Edwards Pt.

Where Are You: 47° 47' 33" N 122° 25' 45" W
or 47° 47.55’ N 122° 25.7’ W

How Far to Shilshole: 6.4 nm
How far to the light on the Breakwater off Edwards Pt.: 1.65 nm

What would be a quick way to describe your position to the Coast Guard:

1) **All of the above would work if a direction was given from Shilshole or the Breakwater.**
2) **1.7 nm on a bearing of 354° M from the SF Buoy (Approximately due North Magnetic) or A Bearing of 174° to Buoy “SF” at a distance of 1.7 nm.**

B) The Skipper ask you to give him a course to steer from the Meadow Pt. Buoy to Port Madison. You decide to pass about 600 yards due North of Pt. Monroe.

1) What is the magnetic course: 267° M
2) What is the approximate distance: 4.3 nm
3) At 6.5 kts how long until you pass North of Pt. Monroe: 39 minutes
4) What do you think of this course: ________________

**The course crosses the VTS lanes at 90° per Rule 10**

*Extra careful lookout should be kept for large ships, Freighters are very deceptive and can more at over 20 knots in Puget Sound, this means that a small dot on the horizon can become a VERY Large ship in a few minutes, or a high speed catamaran moving at 25 to 30 knots.*

*Extra caution should be exercised in the area of the VTS lanes, remember also that large ships sometimes leave the VTS lanes when operating and can be outside the area they normally operate in.*

C) You are at the helm, the boat is outside the Shilshole Marina heading toward the Ballard Locks. As the vessel passes a RW Buoy close to Port. The Skipper consults his chart and tells you to Steer 147° M.

What do you think: **Not good - you are headed to the Ft Lawton R Dome & shallow water**

What happened: **The course was probably taken from True not Magnetic**

D) Your course is due North Magnetic. You pass a Yellow Buoy “SF” about 1000 yd. abeam to Starboard. Someone yells “Lets stop for lunch”. You are very hungry.

What do you think: **Bad move - you are in the center of the South Bound Shipping Lane**

What happened: ____________________________________________
E) You are up towards Edmonds - one of your crew is trying out your new hand bearing compass. They take the following readings: 344° M to a Green Buoy south of Possession Pt and 164° M to the north light on the entrance to the Edmonds Marina.

Where are you: **Somewhere Between Possession Pt. and Edmonds**
What happened: **The readings are reciprocals - there is no valid intersection – 2 LOP readings should cross as close to 90° for best accuracy**

F) Your crew takes the following bearing: 318° M to a Yellow Buoy they think is “SE” and 204° M to a Green Buoy you think is off Meadow Point.

Where are you: **The LOP is aground south of Spring Beach**
What happened: **“SE” is probably too far away to be seen (13 nm) The ATON was probably confused with “SF” if so your position is approximately .65 nm on a LOP 024°M from the Meadow Pt. Buoy. If the readings seem confusing or are contradictory additional sights should be taken. All Navigators should know about where they are at all times, that will help to prevent errors like this and others such as running aground or going into the wrong harbor or marina (Yes, I have known boaters that have done both of these.)**

*Remember – A prudent Navigator always know where they are!*