1) Plot a course from the G "1B1" Fl G 4sec. (Lat 41° 15.5'N, 71° 34.5' W) to a point 0.5NM South (True) of the W Or "H", Fl 2 sec bell (Lat 41° 24.7'N, 71° 24' W). At 0730, you depart the green buoy "1B1" on the course just plotted, and proceed at a speed of four (4) knots.

a) What is the course?   True: _____

Magnetic: _____

Compass: _____

b) What is the position and ETA of a point 0.5 NM. South of the W Or "H" buoy?

Lat: _____

Long: _____

ETA: _____

2) Continuing along the course plotted in the previous question, at 1000,

a)   Plot your DR position: Lat: _____

Long: _____

b)   The following bearings are obtained with a hand-bearing compass (assume no deviation):
Point Judith Light (GP Occ (1+2)), (41°21.7N, 71°28.9W): **283°M**
Brenton Reef Light (41°25.6N, 71°23.3W): **012°M**
Onshore Tower (41° 24.9'N, 71° 27.9'W): **328°M**

What is the 1000 fix? Lat: _____

Long: _____

c)   The difference between the 1000 fix and the 1000 DR was caused by a current.

What is the set and drift of the current?

Set: _____°T

Drift: _____ kt

3) Later, from a position 41° 22.5'N, 71° 06.7'W, plot a course to pass 1.5 NM west of BW "SR" Mo(A) Whistle (41° 26.5N, 071° 13.5'W). Allow for a set of 230°T and drift of 1.5 kt. Boat speed is five (5) knots.

a) What is the course?   Magnetic: _____

b) What is the heading?   Magnetic: _____

Compass: _____

c) What will be the Speed Made Good?   _____

4) At 1345, from a position 41° 15.3'N, 071° 20.0'W, plot a course to "1B1" buoy (41° 15.5' N, 071° 34.5'W). Allow for a leeway of 7° caused by a strong N wind.

a) What is the course?   Magnetic: _____

b) What is the heading?   Magnetic: _____

c) The Speed Made Good is five (5) knots. What is the ETA at the buoy?   _____

5) Plot a course from the W Or "A" (41° 16.6'N, 071° 24'W.) to Whale Rock buoy (41° 26.7'N, 071° 25.2'W)

a) What is the course?   Magnetic: _____

Compass: _____

From a DR position abeam of R"2" (41° 20'N, 71° 28.6'W), plot a danger bearing to avoid the wreck east of your course line (wreck is east of W Or "E"). Use Brenton Reef Light for your bearing.

b) The danger bearing is: Magnetic: _____

c) Brenton Reef Light should bear NO MORE/NO LESS (delete one) than the danger bearing to remain safe.

6) At 1600, on the same course established in question 5, the Point Judith Light (GP Occ (1+2)) bears 300°M. At 1620, the same light bears 270°M. Both bearings are taken with a hand-bearing compass (assume no deviation). Plot a running fix for 1620. Boat Speed is 4 knots.

   a) What is your Running fix position? Lat:_____ Long:_____

   b) What is the Course Made Good/Track from the W Or "A"buoy?   Magnetic: _____

Assume the difference between the Course Made Good and the heading to be due to leeway (no current).

   c) What is the leeway? _____

Considering leeway, plot a new course to the Whale Rock buoy.

   d) What is the course?   True: _____

   e) What is the heading?   Magnetic: _____

                                Compass: _____

7) You are approaching Whale Rock on a heading of 040° Per Ship's Compass (PSC). Using your ship's pelorus, you measure River Ledge C"1" bearing 060° off your port bow.

   What is the bearing of C"1"?   _____ ° PSC

8) While sailing 0.5 nm west of Brenton Reef Light, the 2 towers on Beavertail Point (Conanicut Island) are directly in line, bearing 013° PSC. Calculate your compass deviation.

                Deviation: _____

STEERING COMPASS
DEVIATION TABLE

Heading (PSC) BY COMPASS	DEVIATION	HEADING MAGNETIC
000°	5°W	355°
010°	5°W	005°
020°	5°W	015°
030°	5°W	025°
040°	5°W	035°
050°	4°W	046°
060°	4°W	056°
070°	3°W	067°
080°	2°W	078°
090°	1°W	089°
100°	1°E	101°
110°	4°E	114°
120°	7°E	127°
130°	9°E	139°
140°	10°E	150°
150°	10°E	160°
160°	10°E	170°
170°	11°E	181°
180°	10°E	190°
190°	9°E	199°
200°	7°E	207°
210°	5°E	215°
220°	4°E	224°
230°	2°E	232°
240°	0	240°
250°	2°W	248°
260°	4°W	256°
270°	5°W	265°
280°	6°W	274°
290°	6°W	284°
300°	6°W	294°
310°	6°W	304°
320°	6°W	314°
330°	5°W	325°
340°	5°W	335°
350°	5°W	345°
360°	5°W	355°

Deviation Table to be used with problems

1)   a) What is the course?   True: __043°__

Magnetic: ____058°____

Compass: ____062°____

b) What is the position and ETA of a point 0.5 NM. South of the W Or "H" buoy

Lat: ___41°24.2'N___

Lon: ___071°23.9'W___

ETA: __1027__

2)

a)   Plot your 10:00 DR position: Lat: __41°22.85N__

Long: __71°25.6W__

b)   What is the 10:00 fix position?   Lat: ___41°21.8'N___

Lon: ___071°23'W___

c)   What is the set and drift of the current?

Set: ___118°T___

Drift: __.88__   (2.2nm ÷ 2.5hrs = .88 kts)

3)   a) What is the course?   Magnetic: ____316°____

b) What is the heading?   Magnetic:____332°____

Compass: ____337°____

c) What will be the Speed Made Good? ____5.3 kt____

4)   a) What is the course?   Magnetic: ____286°____

b) What is the heading?   Magnetic: ____293°____   (+7° leeway)

c) What is the ETA at the buoy?   ____1557____   (11 miles in 2.2 hrs = 2h, 12m)

5)   a) What is the course?   Magnetic: _____009°_____

                                        Compass: _____014°_____

        b) The danger bearing is: Magnetic: _____024°_____

        c) Brenton Reef Light should bear ~~NO MORE~~/NO LESS (delete one) the danger bearing to remain safe.

6)   Running fix position: Lat: 41°22.35N, Long: 071°25.7W

        a) What is the Course Made Good (Track) from the W Or "A" buoy?

                                        Magnetic: _____003°_____

        b) What is the leeway?   _____006°_____

        c) What is the course?   True: _____006°_____ (Straight line)

        d) What is the heading?   Magnetic: _____027°_____ (+15°W Variation +06° leeway)

                                        Compass: _____032°_____ (+5° Deviation)

7)   What is the bearing of C"1"?   _____340°_____ ° PSC (Per Ship's Compass)

                (360° +040° - 60° = Relative bearing of 340°)

8)   Deviation: _____4° E_____

                        T= 002° (measured on chart)
                        V= 15°W
                        M= 017° (what the bearing "should be")
                        D= 4°E
                        C= 013° (from boat's compass, what the bearing "is")