Part I: Advanced Lines of Position

4.1 Plotting a fix (Fig. 20)

212º M = 230º T

292º M = 310º T

Distance travelled in 2 h 40 min (= 160 min): 16 NM

4.2 & 4.3 Plotting a DR and a running fix at 09:05 (Fig. 21)

Boat location at 09:05:
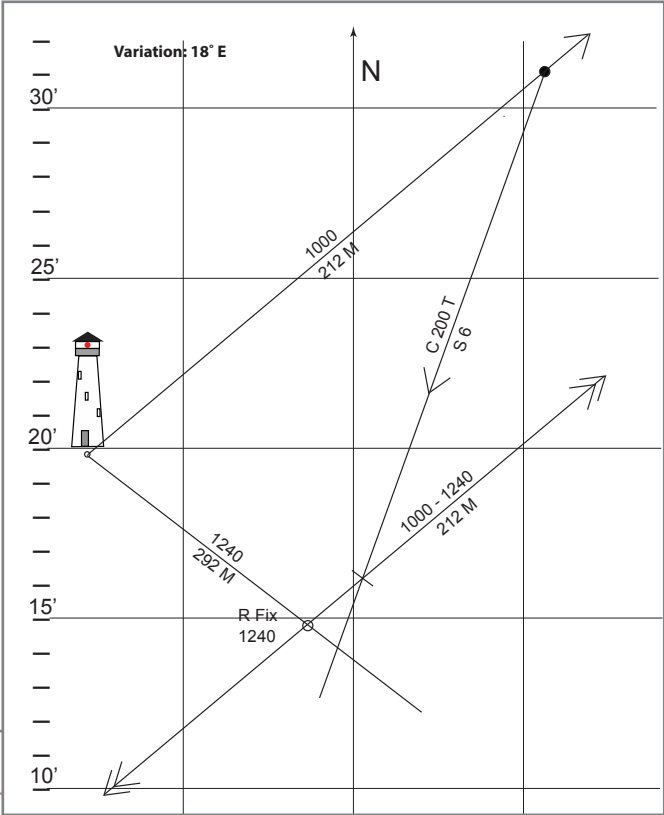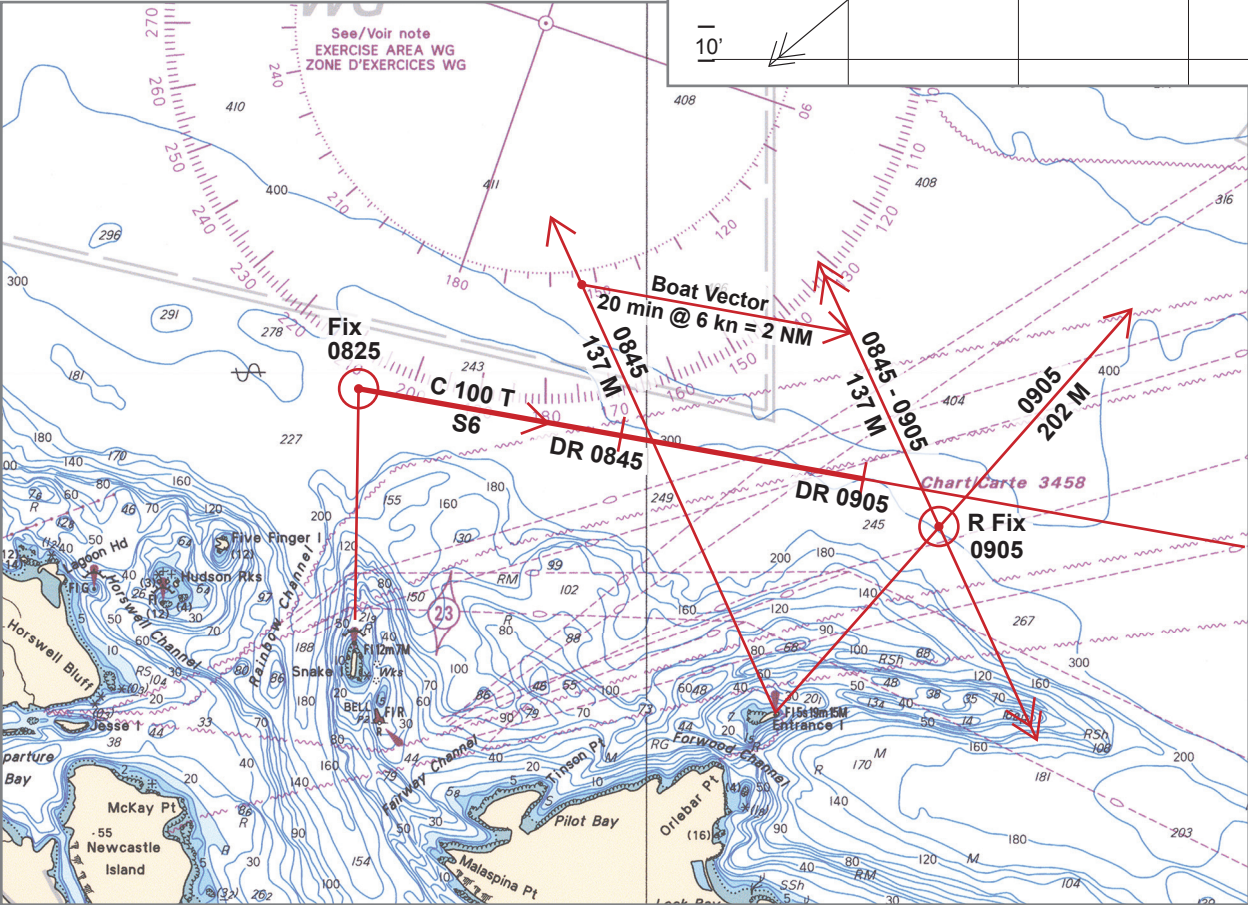
49° 14.0' N - 123° 46.6' W

Fig. 20 Answer to 4.1

Fig. 21 Answer to 4.2 & 4.3

4.4a Plotting a DR at 09:35

(Fig. 22)

T	V	M	D	C
156º	18ºE	138º	4ºE	134º

$$D = \frac{5 \times 30}{60} = 2.5 \text{ NM}$$

Fig. 22 Answer to 4.4a

4.4b Plotting a running fix at 09:35 (Fig. 23)

282º M = 300º T

R Fix at 09:35:
49º 11.4' N
123º 45.3' W

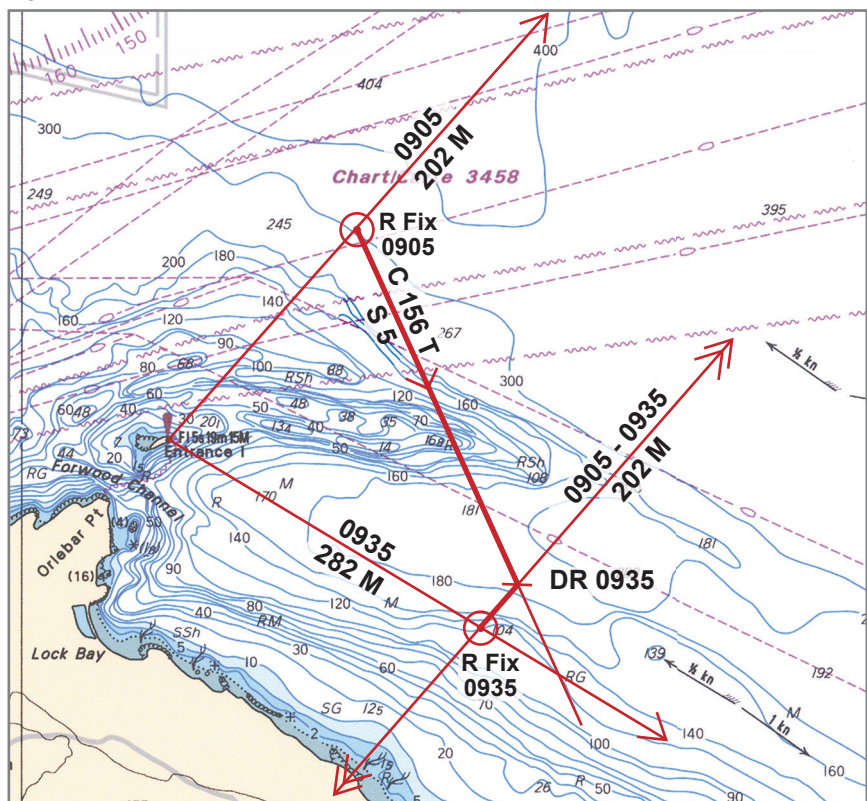Fig. 23 Answer to 4.4b

Part II: Set and Drift

4.5 **Measure of set and drift** (Fig. 24)

    a) Set: **280° T**;

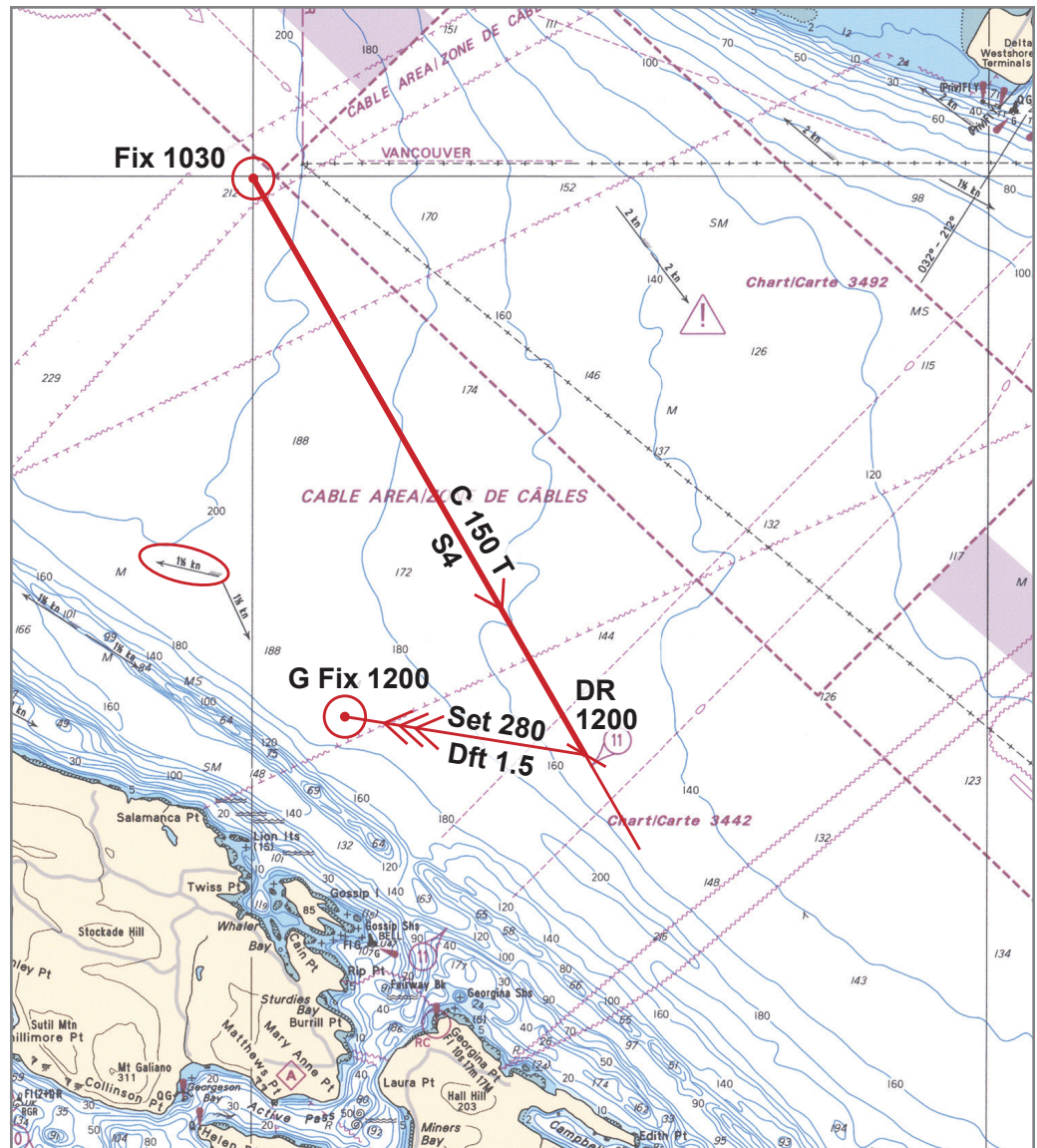   b) Drift: **1.5 kn**;

    c) **Flood** tide

Fig. 24 Answer to 4.5

4.6 Heading required to offset a known current (Fig. 25)

Heading (course): **179 ° T** (measured on the chart)
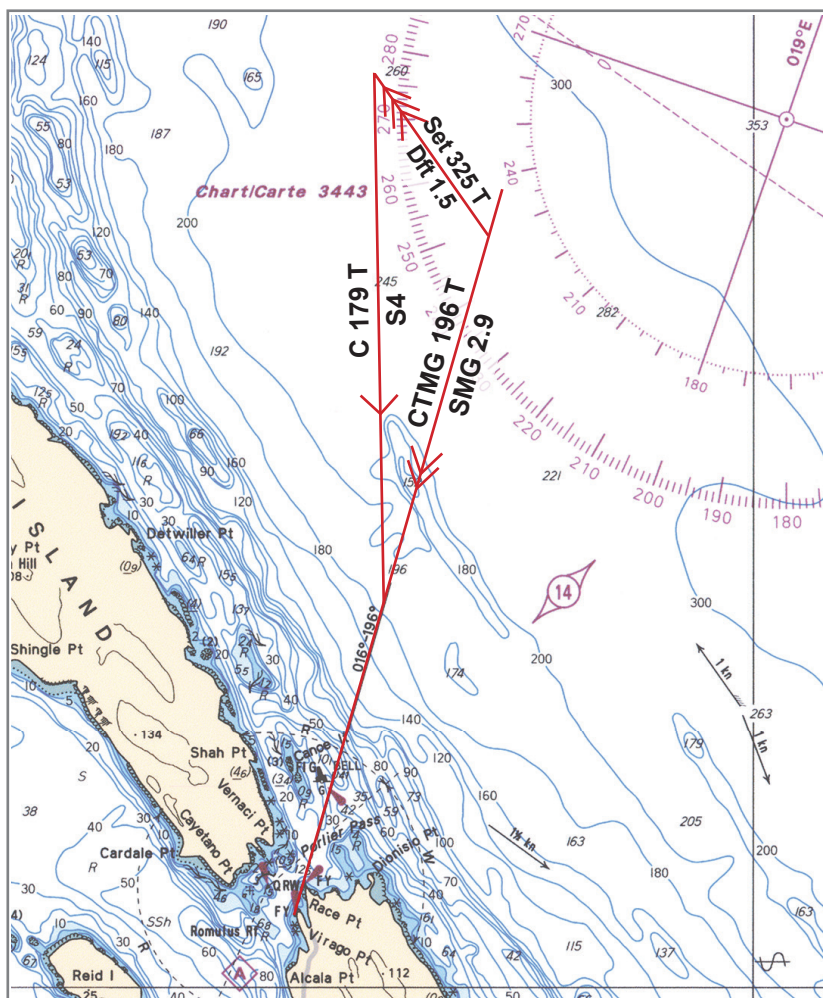SMG: **2.9 kn** (measured with dividers)

Fig. 25. Answer to 4.6

4.7 Leeway

The boat is sailing west under a strong wind from the south. Correcting for the leeway requires turning **into** the wind, i.e. to port, by the amount of the leeway.

– New compass course: 250° - 05° = **245° C**