

CHECK YOUR PROGRESS
NAVIGATION 1 AUS 802

NAME:
Answers

Use [chartlet](#) and the [deviation card](#) provided at the end of this file.

Question 1 (10 Marks)

Plot the following positions:

Position 1 Lat $39^{\circ} 17.0$ S Long $146^{\circ} 03.8$ E

Position 2 Lat $39^{\circ} 08.0$ S Long $146^{\circ} 14.8$ E

Then find:

- the true course to steer from Position 1 to Position 2
- the time taken to steam from Position 1 to Position 2 at a speed of 6.25 knots
- the ETA at Position 2 if the time of departure from Position 1 was 2245 on 1st April

Question 2 (10 Marks)

South East Point, Wattle Island and the centre of Rodondo Island were all at a radar range of 3 miles. Fix the ship's position and find the compass deviation if South East Point bore 020 by ships compass. Use a Variation of 13° E, but do not use the Deviation Card provided.

Question 3 (15 Marks)

At 1100 the summit of Norman Is (96) bore $050^{\circ}.5M$ and Citadel Is. Lt bore $097^{\circ}M$.

The vessel then steered a course of $127^{\circ}M$ at 5 knots.

At 1230, Cleft Is (113) (Skull Rock) bore $068^{\circ}M$, and the radar range of its nearest edge was 7.2 miles.

Use a Variation of $13^{\circ}E$ in this question.

Now do the following:

- a. plot and record the 1230 DR position
- b. plot and record the 1230 Fix position
- c. find the course made good between 1100 and 1230
- d. find the speed made good between 1100 and 1230
- e. find the set drift and rate of the current experienced between 1100 and 1230

Question 4 (15 Marks)

At 1400 South East Point Light bore $278^{\circ}M$, and the radar range of the nearest edge of South East Point was 6.0 miles.

Find the compass course to steer to pass 1 mile to the north of Forty Foot Rocks, allowing for a current setting $130^{\circ}T$ at a rate of 1.5 knots and leeway of 10° from a strong northerly wind. The vessel's speed is 6 knots.

Also calculate the Course Made Good, the Speed Made Good, and the E.T.A. when abeam of the summit of Rodondo Is

Use the Deviation Card provided and a Variation of $13^{\circ}E$.

Question 5 (15 Marks)

At 2115 in calm conditions and no current, steaming at 10 knots on a course of 217°C , Clifty Is. Lt. bore $267^{\circ}.5\text{C}$. Later on at 2130, the light bore $333^{\circ}.5\text{C}$. Using the running fix method, fix the ship's position at 2130.

Then find the compass course to steer, and the required ship's speed to reach a way point in Lat $39^{\circ} 07'.5 \text{ S}$ $146^{\circ} 30'.0 \text{ E}$ at 2306. Use the Deviation Card provided and a Variation of 13°E .

Question 6 (10 Marks)

Using the tidal information provided at the internet [TIDAL PREDICTION](#) site find the times and heights of the tides at Sydney on 1/6/08.

Question 7 (6 Marks)

Using the Australian National Tide Tables graph and the tidal information calculate the height of the tide Eden at 0700 on Sunday 1/6/08

Question 8 (4 Marks)

Find the under keel clearance of a vessel drawing 3 metres passing over a charted depth of 2.5 metres. Height of tide 2 metres.

Question 9 (1 Mark)

What is the full meaning of the symbol



Question 10 (1 Mark)

What is the full meaning of the symbol



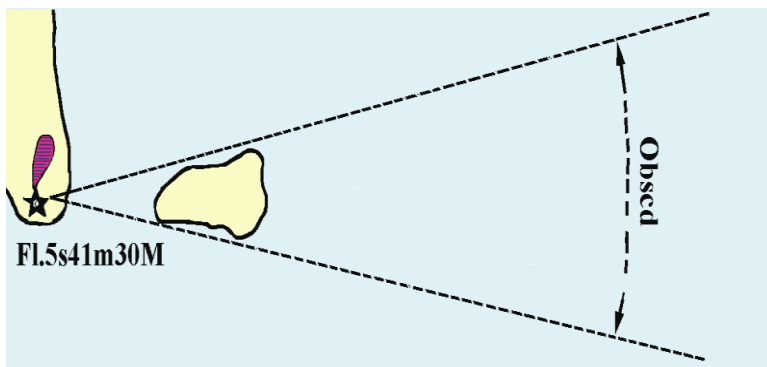
Question 11 (1 Mark)

What is the full meaning of the symbol



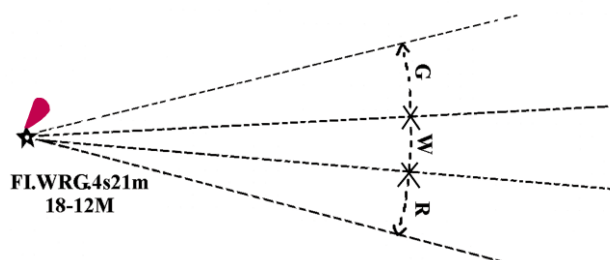
Question 12 (1 Mark)

What is the full meaning of the symbol



Question 13 (1 Mark)

What is the full meaning of the symbol



Question 14 (4 Marks)

Using the Geographical Range Table provided, find the range at which a ship with a bridge height of eye of 5 metres would raise Hogan Island Light 135 M on a dark clear night with perfect visibility is _____ miles.

Question 15 (6 Marks)

Use the Luminous Range Diagram provided and Chart No. AUS 802. The luminous range of Citadel Island light if the meteorological visibility was 5 miles is _____ .

Question 16 (10 Marks)

Name five publications you would refer to in planning a passage from Port Jackson in NSW to Mackay in Queensland.

Question 17 (2 Marks)

The soft iron bar which is commonly installed on the forward side of the compass binnacle in large vessels is known as the:

- a. Flinders Bar
- b. Quadrantal Corrector
- c. Kelvin Corrector
- d. Heeling Error Corrector

Question 18 (2 Marks)

A vessel's automatic pilot steering device is best suited for use in:

- a. pilotage waters
- b. good visibility
- c. poor visibility
- d. open waters

Question 19 (2 Marks)

Tails below a depth sounder's trace become larger when the:

- a. sea is rough
- b. vessel is over a hard seabed
- c. vessel is over seaweed
- d. vessel is in shallow water

Question 20 (2 Marks)

In GPS receivers an outage can last for periods up to:

- a. 10 minutes
- b. 30 minutes
- c. 2 hours
- d. 4 hours

Question 21 (2 Marks)

The term "dithering" as applied to GPS means that:

- a. the system is occasionally turned off
- b. there is a difference between chart datum and WGS
- c. the accuracy is reduced for civilian users
- d. the errors are abnormally large and variable

DEVIATION CARD 2 NAVIGATION		
Magnetic Heading	Deviation	Ships Head By Compass
356°	4°W	000°
015°	5°W	020°
034°	6°W	040°
056°	4°W	060°
078°	2°W	080°
099°	1°W	100°
121°	1°E	120°
143°	3°E	140°
164°	4°E	160°
186°	6°E	180°
208°	8°E	200°
230°	10°E	220°
248°	8°E	240°
266°	6°E	260°
283°	3°E	280°
301°	1°E	300°
319°	1°W	320°
338°	2°W	340°
356°	4°W	360°
Study example only- Not for navigation		

AUS 802 – Point latitudes

Anser I	39°08'.6	Norman I	39°01'.4
Arch Rk	38°50'.4	Norman Pt	39°03'.3
Bell Pt	38°50'.8	North East It	39°12'.0
Big Rk	39°30'.4	North Rock	39°26'.2
C Liptrap	38°54'.6	Notch I	38°56'.5
C Wellington	39°04'.0	Oberon Pt	39°04'.8
Citadel I	39°07'.0	Passage Rk	39°29'.6
Clarendon Rk	39°28'.2	Pillar Pt	39°02'.6
Cleft I	39°09'.5	Rabbit I	38°54'.6
Cliffy I	38°57'.1	Rabbit Rk	38°55'.0
Cone I	39°29'.8	Rag I	38°57'.3
Curtis I	39°28'.4	Ramsbotham Rks	39°04'.2
Dannevig I	39°06'.4	Refuge Cove	39°02'.5
Deal I	39°28'.8	Rodondo I	39°14'.0
Devils Tower	39°22'.7	Round I	39°13'.8
Dover I	39°28'.4	Seal I	38°55'.6
East I	39°13'.0	Seal Rk	39°11'.6
East Moncoeur I	39°13'.8	Sealers Cove	39°01'.1
Erith I	39°26'.8	Shellback I	38°58'.2
Forty Foot Rks	39°12'.2	Skull Rk	39°09'.5
Glennie Group	39°06'.8	South East Pt	39°08'.0
Grinder Pt	38°54'.0	South Pt	39°08'.3
Gt Glennie I	39°05'.5	South West I	39°31'.4
Hogan I	39°13'.6	South West Pt	39°07'.6
Horn Pt	39°01'.8	Sugarloaf Rk	39°31'.4
Judgement Rks	39°30'.6	Three Mile Pt	38°53'.0
Kanowna I	39°09'.4	Tongue Pt	38°59'.8
Kent Group	39°27'.4	Twin Is	39°12'.4
Lighthouse Pt	38°50'.6	W Moncoeur I	39°13'.8
Long I	39°12'.6	Waratah Lt	38°51'.8
McHugh I	39°07'.0	Waterloo Pt	39°05'.4
Monkey Pt	38°54'.8	Wattle I	39°08'.4
Mt Wilson	39°03'.4	White	38°54'.5

Workings