

Motorboat simulator navigational exercises No2 **Answers**

Passage Planning:

Name:

Plot a position on Chart Aus 811 from the information that has been reported, and use the simulator to find the following casualties. Use *Camden rescue east Saved Scenery (Port Coastal)*:

Scenario 1:

Blue yacht reports unusual lights distant 0.75NM @ 303°M and gives its position:

Crowdy Head Light	220°T (208°M)	Position	31° 46'.7 S 152° 49'.0 E
North Brother(486)	345°T (333°M)		
Perpendicular Point	012°T (000°M)	Sounding	30 mtrs

Complete the passage details to investigate this report using the tugboat (max speed 10kts):

TCTS 000°T	CCTS 000°C	Distance 0.0NM	ETA + 0hrs 0mins
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Scenario 2:

Determine the safest approach to pass a tow to the casualty in Scenario 1 (you may need to use a launch). Report his position by bearings and Lat /Long. to the VMR:

Crowdy Head Light	211°T (199°M)	Position	31° 46'.1 S 152° 48'.3 E
North Brother(486)	348°T (336°M)		
S.E. Diamond Head	358°T (346°M)		
Perpendicular Point	016°T (004°M)	Sounding	0 mtrs

Plan a passage to tow the casualty (tow speed 8kts) to the Camden Haven River entrance. Pass Telegraph Rock with an offing of 0.5 NM to Waypoint One (when the tower on North Brother Mountain just clears Perpendicular Head) and then on to Waypoint 2 at the river entrance.

Passage plan to Waypoint 1.

TCTS 021°T	CCTS 009°C	Distance 8.75NM	ETA + 0hrs 0mins
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Passage plan to Waypoint 2.

TCTS 266°T	CCTS 000°C	Distance 1.7NM	ETA + 0hrs 0mins
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At what time should Telegraph Rock be abeam?	Distance 8.0NM	ETA + 0hrs 0mins
Time + 0hrs 0mins		

Scenario 3:

At 7.5 NM by the log on passage to Waypoint 1 you sight a missing sailing dinghy swept onto the rocks 1NM abeam of you. Report this position by Lat /Long. to the VMR. What would the dinghies bearings be if it sighted:

North Brother(486)	258°T (246°M)	Position	31° 38'.9 S 152° 50'.3 E
N.E. Diamond Head	201°T (189°M)	Distance 7.5NM	Time + 0hrs 0mins

Scenario 4:

A Blue yacht (broken down) calls for assistance. Find its position from the bearings given:

Tacking Point Light	029°T	(017°M)	Position	31° 38'.3 S	152° 50'.1 E
North Brother(486)	245°T	(233°M)			
Perpendicular Point	105°T	(093°M)	Sounding	2.6 mtrs	

What is your passage plan from your present position?

TCTS	000°T	CCTS	000°C	Distance	0.0NM	ETA	+ 0hrs 0mins
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Scenario 5:

Sailing dinghy is reported missing at Lake Cathie Entrance:

Plan a passage to investigate by passing 1NM clear of Grants Head to Waypoint One, (when the tower on Jolly Nose is in transit with Grants Head), and then on to Waypoint 2 at Lake Cathie Entrance.

Passage plan to Waypoint 1.

TCTS	038°T	CCTS	026°C	Distance	2.2NM	ETA	+ 0hrs 0mins
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Passage plan to Waypoint 2.

TCTS	358°T	CCTS	346°C	Distance	3.4NM	ETA	+ 0hrs 0mins
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What is the sailing dinghies position from the given bearings?

North Brother(486)	210°T	(198°M)	Position	31° 32'.8 S	152° 51'.3 E
Perpendicular Point	183°T	(171°M)			
Transit Hill(118)	034°T	(022°M)	Sounding	1 mtrs	

Scenario 6:

12 metre trawler requests fuel:

What is your passage plan from your present position?

North Brother(486)	220°T	(208°M)	Position	31° 31'.0 S	152° 55'.1 E
Transit Hill(118)	002°T	(350°M)			
Jolly Nose/Cathie	238°T	(226°M)	Sounding	17 mtrs	

TCTS	000°T	CCTS	000°C	Distance	0.0NM	ETA	+ 0hrs 0mins
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At the trawlers side you notice (while heading on Mt Cairncross) your compass appears to be misreading. Calculate your deviation on this heading and explain what could cause the error.

Compass on Mount Cairncross(533)	316°T	(304°M)			
Charted on Mount Cairncross(533)	311°T	(299°M)	Deviation	5°W	

Scenario 7:

Note:

Set Environment - Wind northerly 20kts –Waves user define 2mtrs @ 100mtrs direction 180°.

At 1115 a Green yacht reports as drifting off Port Macquarie in a Southerly current of 3 kts.:

Tacking Point	213°T	(201°M)	
Bird Rock	289°T	(277°M)	
Nobbies Head	259°T	(247°M)	Sounding 30 mtrs

At 1200 a rescue vessel (capable of 13 knots) in a position at Bird Rock is available to respond.

Describe your plan to intercept the yacht.

TCTS 149°T	CCTS 137°C	Distance 4.0NM	ETA + 0hrs 15mins
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Describe the position of the yacht when you intercept and the return passage plan.

Tacking Point	305°T	(293M)	Position 31° 29'.5 S	152° 57'.8 E
North Brother(486)	224°T	(212°M)		
S E Jolly Nose	239°T	(227°M)		
Perpendicular Point	214°T	(202°M)	Sounding	36 mtrs
Nobbies Head	330°T	(318°M)		

TCTS 000°T	CCTS 000°C	Distance 0.0NM	ETA + 0hrs 0mins
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Scenario 8:

Note: Use the environmental settings of Scenario 7.

At 1000 a vessel reports a red buoy drifting off Port Macquarie in a current 186° @ 2 kts.:

Red buoy position at 1000:	Position 31° 20'.75 S	152° 58'.2 E
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Nobbies Head	197°T	(185°M)	Sounding	17 mtrs
Mount Cairncross(533)	271°T	(259°M)		
Point Plomer	183°T	(171°M)		

At 1145 a rescue vessel (capable of 11 knots) is at the river mouth available to respond.

Describe your plan to intercept the buoy.

TCTS 060°T	CCTS 048°C	Distance 2.75NM	ETA + 0hrs 15mins
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Describe the position of the buoy when you intercept and the return passage plan.

Transit Hill(118)	213°T	(201°M)
Broken Bago	248°T	(236°M)
Point Plomer	007°T	(355°M)

Red buoy position at 1200:	Position 31° 24'.7 S	152° 57'.7 E
	Sounding	28 mtrs

TCTS 000°T	CCTS 000°C	Distance 0.0NM	ETA + 0hrs 0mins
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Scenario 9:

Blue yacht breaks down, anchors and calls for assistance:

At 1200 a rescue vessel (capable of 25 knots) is at the river mouth available to respond.

Between 000°M and 030°M, this rescue vessel experiences 2°W deviation

Describe your plan to intercept the yacht.

Broken Bago	234°T	(222°M)	Position 31° 20′.1 S	152° 58′.2 E
Mount Cairncross(533)	269°T	(257°M)		
Queens Head	005°T	(353°M)	Sounding	8 mtrs

TCTS 027°T MCTS 015°C CCTS 017°C Distance 6.2NM ETA + 0hrs 0mins

Scenario 10:

The Blue yacht says it spotted a Green buoy adrift 1.5 miles to the North East. Assume no current.

Describe your search pattern to find the buoy and report its found position.

Green buoy adrift:			Position 31° 19′.2 S	152° 59′.8 E
Tacking Point	199°T	(187°M)		
Broken Bago	234°T	(222°M)	Sounding	110 mtrs
Mount Cairncross(533)	265°T	(253°M)		
Point Plomer	265°T	(253°M)		

TCTS 056°T CCTS 000°C Distance 1.6NM ETA + 0hrs 0mins

Scenario 11:

A trawler is overdue at Crowdy Harbour. Orange smoke has been reported east of Crowdy Head by an informant on the rocks below the lighthouse.

Describe your search pattern to find the trawler and report its found position.

Scenario 12:

A sailing dinghy is missing, last seen at the Hastings River mouth.

Set up a search pattern to find and report the position of the sailing dinghy.