

Northern Hemisphere Exercises

DAY SKIPPER/WATCH LEADER - GENERAL ASSESSMENT PAPER



NOT TO BE TAKEN AWAY

TIME ALLOWED 1½ HOURS

All times are in DST, unless shown otherwise.

Use RYA chart 4, plan F, and the RYA Almanac

1. **Use chart 4, plan F**

The navigator has placed a waypoint 0.5 miles due east of the Rods Skerry isolated danger mark ($46^{\circ} 13'.41N$ $005^{\circ} 52'.86W$).

- Plot the waypoint.
- At 1325 the GPS gives the direction and distance to the waypoint as 220° 1.0 mile. Plot this position.
- What can be used to independently verify this position?

2. **Use chart 4, plan F**

- What is the charted depth in position $46^{\circ} 12'.82N$ $005^{\circ} 48'.50W$?
- If the height of tide is 3.5m, what will the depth of water be in that position?

3. **Use the tidal stream atlas in the Almanac**

What is the direction and rate of the tidal stream at the entrance to Port Fraser on Sunday, 4th August, between 1047 and 1147?

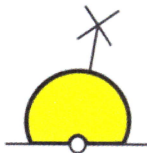
4. **Use chart 4**

- What year was the last correction made to this chart?
- Chart corrections are issued from various sources. Name three.

5. What do these light characteristics mean? What type of buoy would show them?

- Fl. G 2.5s
- Q
- Fl. (2) R 5s
- Fl. (3) 10s

6. a) Identify this buoy.



- How are buoys like this used?
- If lit what colour light would it show?

7. On the yacht Seaspray the only other person on board has been hit on the head by the boom and is unconscious. You send a DSC distress alert and a Mayday voice call and message.
- On which VHF radio channel should the Mayday call and message be sent?
 - Write the Mayday voice call and message you would send.
MMSI: 235 215 187 Call-sign: MWZN9 Position: 46° 18'.65N 006° 40'.70W
 - What information is included in a DSC distress alert?

8. **Use chart 4, plan F, and the Almanac**

A boat at anchor in David Bay, Walton Sound, in position 46° 12'.50N 005° 50'.50W, receives the following forecast.

24 hour forecast:

Wind W 4 or 5, veering NW 5 or 6 later.

Sea state slight, becoming moderate.

Weather, rain then squally showers. Visibility moderate or poor

Outlook for the following 24 hours:

Wind NW 5 or 6, decreasing 4 or 5 later.

Sea state moderate.

Weather, squally showers. Visibility moderate or poor, becoming good except in showers.

- How are the sea conditions likely to change over the next 48 hours in David Bay?
 - The skipper decides to leave the anchorage for a more sheltered location and considers:
 - Endal Marina
 - Rozelle Cove Marina
 - India Harbour, Beaker Bay.What are the pros and cons for each location taking into account; sail vessel, motor vessel, passage, shelter and facilities.
 - Which location would you choose and why?
9. The flare box contains; red parachute rockets, red hand-held flares and orange smokes to be used in different distress situations.
- Which distress flare would be most suitable to signal to a helicopter in daylight? And why?
 - When using a hand-held flare what personal protective clothing should you consider wearing?
 - Which flare would be most appropriate if the boat is 10 miles offshore? Explain your answer.
 - How should time expired pyrotechnics be legally and safely disposed of?
10. What is the purpose of a dan-buoy attached to one of the boats life belts?



11. a) Why is it essential that a lifejacket is fitted correctly and appropriate to your size?
b) What advantage is there in wearing a lifejacket with a correctly fitted crotch strap?
12. List two items you would expect to find in your engine spares?
13. What do each of the following shapes signify?

a)



b)



c)

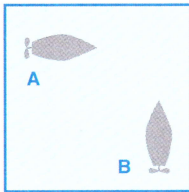


d)

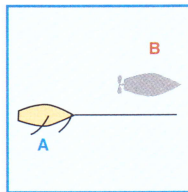


14. a) What are the obligations of the stand-on vessel?
b) What are the obligations of the give-way vessel?
15. In the following diagrams a risk of collision exists. In each case which vessel should give way, and what action should it take?

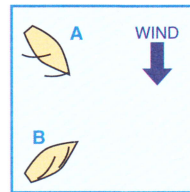
a)



b)



c)



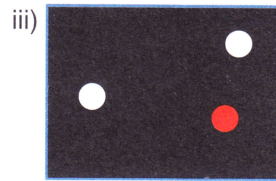
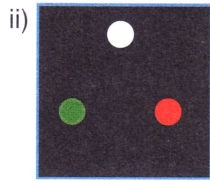
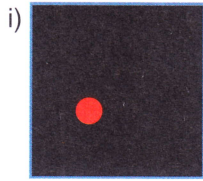
16. a) What are the benefits of having an automatic extinguisher, a remote firing extinguisher or an opening so an extinguisher can be fired into the engine space.
b) The pressure gauge on the extinguisher has gone into the red. What should be done?



17. What is the meaning of this daymark?



18. a) What type of vessel is indicated by each of the following lights?
Give the type of vessel, size (if indicated by the lights) and aspect.



- b) Which of the lights listed below would you show at night if you were on one of the following vessels. Give all options available.

- i) A sailing yacht underway and sailing.
- ii) A 12m motor yacht underway.
- iii) A sailing yacht underway with sails up and using the engine.

- 1) Port and starboard navigation lights.
- 2) Masthead light.
- 3) Stern light.
- 4) A combined port, starboard and stern light at the top of the mast (Tri-colour)

ANSWERS

1.
 - a) See trace.
 - b) See trace.
 - c) The position can be confirmed by the NE 237°(T) and SE 198°(T) Groats buoys. As an extra observation, if at night the boat is close to the edge of the white sector of Evans Head lighthouse.

2.
 - a) It dries to 1.5m in that position.
 - b) $3.5\text{m} - 1.5 = 2.0\text{m}$

3. HW Victoria 0717. Neaps.
1047 – 1147. HW + 4 hours. 137°(T) 1.1 knots

4.
 - a) 2006
 - b) At least two of the following:
 - i) National Hydrographic Office publications e.g. Notice to Mariners in the UK.
 - ii) National Hydrographic Office websites.
 - iii) Commercial chart publishers' websites e.g. Imray.
 - iv) Yachting press/magazines.
 - v) Digital media such as SD cards for electronic charts.
 - vi) 'Over-the-air' updates for electronic charts.

5.
 - a) Flashing green once every 2½ seconds, a green starboard hand buoy.
 - b) Quick flashing white, a north cardinal buoy.
 - c) Flashing red, twice within 5 seconds, a red port hand buoy.
 - d) Flashing white, three times, within 10 seconds, an east cardinal buoy.

6.
 - a) A special mark.
 - b) Special marks have no navigational significance, but are used as racing marks, for data collection buoys, marking outfall pipes or recreation zones.
 - c) It would have a yellow flashing light.

7.
 - a) VHF Channel 16.
 - b) Mayday, Mayday, Mayday
 This is yacht Seaspray, Seaspray, Seaspray.
 Mike, Whiskey, Zulu, November, 9 MMSI 235 215 187
 Mayday
 Yacht Seaspray
 Mike, Whiskey, Zulu, November, 9 MMSI 235 215 187
 In position 46° 18'.65N 006° 40'.70W
 One crew member unconscious with serious head injury
 I require immediate assistance
 Two people on board
 Over

c) A DSC distress alert will include the MMSI and a statement that the vessel is in distress, this may be designated or undesignated. If linked to a GPS it will include a regularly updated time and location of the vessel, if it is not, it is possible that an earlier time and position may have been inputted.

8. a) The forecasted strong NW wind in David Bay will make it an uncomfortable lee shore.

This is the information you are looking for within the student's written answer:

b)

Endal Marina

	Passage	Shelter	Facilities
Sail	Reach-run / run OK	Not recommended in a NW so if the wind veers early it may be unsafe.	Good
Motor	Sea abeam, sea astern, sea abeam /astern Uncomfortable		

Rozelle Cove Marina

	Passage	Shelter	Facilities
Sail	Reach OK	Good	Good
Motor	Sea abeam Uncomfortable		

India Harbour

	Passage	Shelter	Facilities
Sail	Relatively short and sheltered beat OK	Good	None and at anchor
Motor	Motoring into wind Good		

c) Under sail the skipper would probably choose Rozelle, but if under motor he/she may choose India Harbour. Both are good answers because Endal Marina is not recommended in a NW for either sail or motor.

NB: This question may be one to discuss as a group after the exam. It has been designed to get students thinking and there will be many more points that arise.

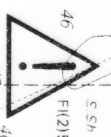
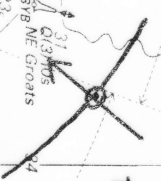
9. a) Orange smoke is ideal to signal to the helicopter in daylight. It has high visibility and shows wind direction. Some can even be thrown into the water and last for three to four minutes.
 b) Stout gloves to protect the hands from burns. Depending on the circumstance the legs and arms should be covered but time may be of the essence. Another possible consideration might be safety goggles/glasses.
 c) Red parachute rockets should be used if offshore. They climb to 1000ft/300m giving the greatest visible range.
 d) Contact the Coastguard for information about disposal of time expired flares. It may be possible to hand them in at a coastguard station, chandlery or liferaft service station.
10. A dan-buoy is designed to float vertically to mark the position of the casualty in a man over board situation. Some have a light that operates automatically.

11. a) For the lifejacket to support your weight, be able to ensure you float face up and keep your airway clear of the water, it must be a snug fit and have sufficient buoyancy.
b) A crotch strap reduces the risk of the lifejacket riding up and no longer keeping your airway clear of the water.
12. Any two from the following:
Impellor
Fuel filters
Belts
Spark plugs (for petrol)
Kill cord (for outboards)
13. a) Vessel engaged in fishing or trawling
b) A vessel restricted in their ability to manoeuvre
c) A vessel at anchor
d) A yacht motor sailing.
14. a) The stand-on vessel should maintain its course and speed, but at the same time monitor the actions of the give-way vessel and be prepared to take action if necessary.
b) The give-way vessel should make an early and obvious alteration of course or speed to avoid the collision.
15. a) A has B on her starboard side and must give way. She should alter course to go astern of B. She could slow down or stop.
b) A is overtaking and must give way. She should keep well clear until passed and clear. This rule takes priority over other rules.
c) Both yachts are on the same tack. A is the windward vessel and must give way. She should go astern of B, or slow down and allow B to pass ahead of her.
16. a) It is preferable to be able to fight a fire without opening the engine compartment as allowing more oxygen in will increase the fire intensity and spread.
b) If the pressure gauge has gone into the red the extinguisher should be serviced or replaced.
17. The A flag means that there is a diver in the water. Keep well clear.
18. a) i) A sailing vessel, underway, port aspect
ii) Power vessel underway, <50m length, seen from dead ahead
iii) Power vessel underway, probably >50m, port aspect
b) i) 1+3 or 4
ii) 1+2+3
iii) 1+2+3

H A I R E S O U N D

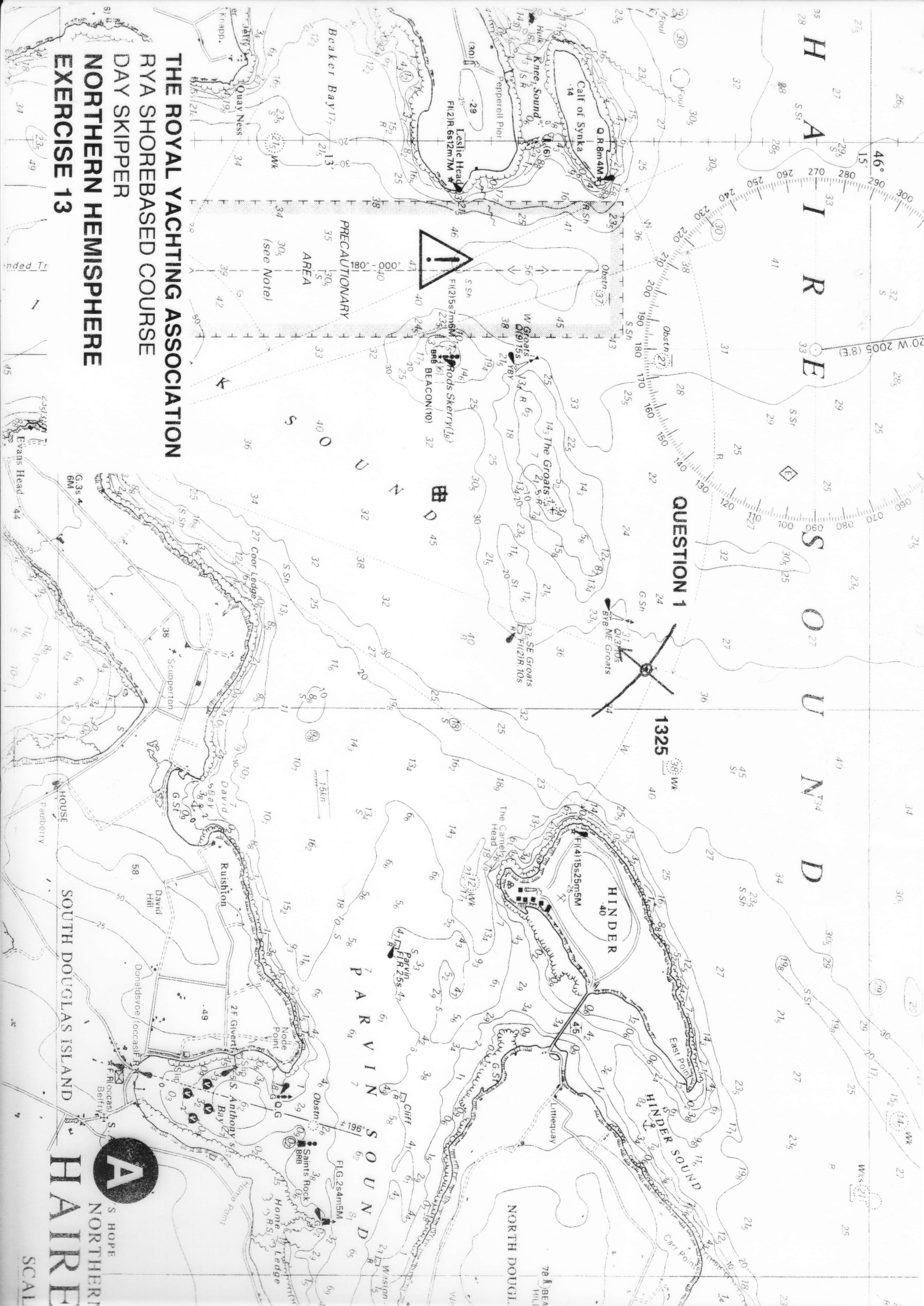
QUESTION 1

1325



PRECAUTIONARY AREA (see Note)

THE ROYAL YACHTING ASSOCIATION
RYA SHOREBASED COURSE
DAY SKIPPER
NORTHERN HEMISPHERE
EXERCISE 13



SOUTH DOUGLAS ISLAND

HAIRE SOUN
NORTH
SCAL

