

Answer guide to Nautical Charts Exercise:

1. Rose Island has a LIGHTHOUSE and is located at $41^{\circ} 29.77' N \times 71^{\circ} 20.49' W$
2. What does F R 48ft. 12M HORN mean?
It's a lighthouse:
F = fixed – a continuous light
R = red colored light
48ft. = the elevation of the light
12M = range that the light can be seen from the lighthouse
HORN = a horn fog signal
3. Find the lighthouse on Cuttyhunk Island. What does “Qk FI 63ft. 12M” mean?
Location: $41^{\circ} 24.8' N \times 70^{\circ} 57' W$
Qk FI = quick flash ~ 50-60 flashes per minute
63 ft. = height of the light
12M = distance visible
4. What is the depth of water over Brown’s Ledge in Rhode Island Sound?
Is this depth at high tide or low tide?
Depth = 48 ft at mean low tide (this info is on the left hand side of the chart)
5. If you were to anchor at Brown’s Ledge what would you expect the bottom to be like?
Rky = rocky (S – Quality of bottom)
6. What type of bottom is at $41^{\circ} 09.7' N \times 71^{\circ} 29.2' W$? Would this be a good spot to anchor? Why or why not?
Hrd = hard, no it would not be a good spot to anchor because an anchor needs a soft or gravelly bottom for the anchor to grab into.
7. How many minutes are there in a degree?
60
8. How many seconds are there in a minute?
60
9. How many seconds are in 10.1'?
 $10.1' = 606$
10. Every minute of latitude (horizontal lines) equals one nautical mile. How many nautical miles does one second represent?
 $1/60$ of a nautical mile = 0.01667 nm (nm = nautical mile)
11. How many nautical miles does 0.5' represent?
 $0.5' = 0.5$ nm
12. What is the areas in square miles of the “Prohibited Area” around Noman’s Land?

Hint: measure nautical miles using the latitude markings on the left or right edge of the chart or the mileage scale at the bottom of the chart. Don't use longitude markings!

Size = 2 1/16 inches East to West by 3 1/4 inches North to South

Using the scale at the bottom – 2 1/16 in = 2.27 nm = 2.6 mi

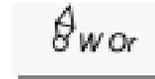
3 1/4 in = 3.5 nm = 4.0 mi

2.6 mi x 4.0 mi = 10.4 sq. mi.

Note: 1 nm = 1.15 mi BUT $1 \text{ nm}^2 \neq 1.15 \text{ sq. mi.}$ $1 \text{ nm}^2 = 1.3225 \text{ sq. mi.}$

13. Why is the area around Noman's Land prohibited, can you tell?
The note on the chart refers to a book you don't have. However, if you search for Noman's Land and Massachusetts you will find a webpage discussing the unexploded munitions on the island.

14. What kind of navigational aid is at 41°20.9' N x 70° 50.1' W?
W Or C "AA" Ra Ref = buoy W Or = special purpose buoy
C = can or cylindrical shape
Ra Ref = radar reflector



15. Why wouldn't you want to anchor at 41° 14.5' N x 71° 12.6' W?
There is an unexploded depth charge there.

16. Describe the navigational aid at 41° 24.2' N x 70° 51.1' W.
A light buoy with a whistle.



17. How far is it between the "BUZZARDS" light tower and the RB "VS" whistle buoy?
1.9 nm in the area of 41° 23-24' N x 71° W

18. What feature is at 41° 30' N x 70° 53.9' W?
Sunken wreck submerged 20-30 meters below.

19. What navigational feature is at 41° 36.2' N x 70° 47.5' W?
Cormorant Rk – square shaped 'day' beacon

20. Give the latitude and longitude of the following:
Tower on Goosebury Neck

41°29.1' N. longitude 71°02.3' W.

Brenton Reef light tower

41° 25.67' N, 71° 22.67' W

Gong buoy off the west end of Noman's Land

41°15.6' N x 70° 50.05 W

R "10" gong buoy in Buzzards Bay

41°32.2'N x 70°47.4'W

21. How far is it (in miles or nautical miles) to sail from Woods Hole to Tarpaulin Cove? In what approximate direction should you travel?

~ 5 ¼ nm or 6 miles

Woods Hole – 41°31'N x 70°40'W Tarpaulin Cove (on Naushon Island) 41°28.5'N x 70°45'W

22. How far is it to sail from Woods Hole to the point where you can safely round Sow and Pigs Reef?

(assume safe sailing outside the blue colored area and leaving Woods Hole from the South and going through the channel) 13.25 nm

23. If you came across a buoy that was red colored, had a bell, was marked with a 23 and flashed green every two seconds, what symbol and label would you look for on your chart?



BELL F1 G 2 sec

24. VECTOR ADDITION / SUBTRACTION

How long would it take you to get from the northern-most tip of Block Island to Newport, RI if your ships maximum speed is 15 knots and there is a 5 knot Southwest current (currents are named based on where they are going).