Week 10

1

COURSE TO STEER

AXE YACHT CLUB

2

The Problem

At 1300DST on Friday 4 October a yacht is in position 45° 42.0'N/ 006° 21.7'W by GPS. The skipper wants to sail to the Quaker Safe Water Mark at the entrance to Edenfield Harbour. The yacht has been making an average of 6.0 knots in a light southerly breeze.
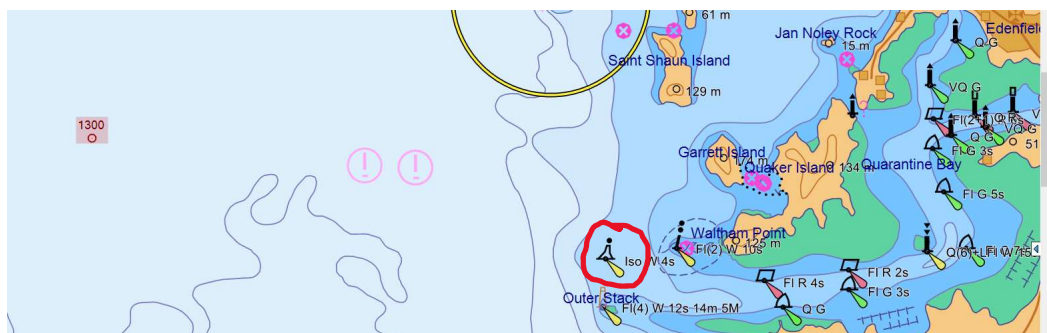What course should the helm be told to steer? (Use <>R for tidal information and take variation = 6°W)

AXE YACHT CLUB

3

4

Process

1. Measure the distance from the start position to the destination. Work out how long this is expected to take at predicted speed. We would normally draw a "one hour" or "half hour" triangle.

2. Draw a line from the original position to the destination ***and beyond***. This represents the course over ground (COG).

3. Lay off the tide from the start position.

4. Set the dividers to the expected boat speed and with one point on the end of the tide vector, arc off on the COG. Join these points and read off CTS with plotter.

5. Correct for leeway (if necessary) before passing the course to the helm.
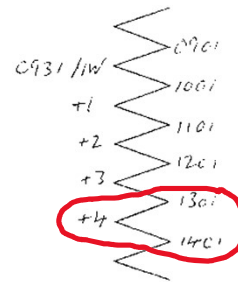
5

Anticipated time = 1 Hour

6

Tidal Stream 1300 DST to 1400 DST

Friday 4 Oct <>R

Victoria HW 0831UT / 0931DST 5.3m
         LW 1430UT / 1530DST   1.2m   Range = 4.1m

<>R HW+4 349°T 2.0 Sp / 1.1Np => Int 1.7kn

7

Compass Course to Steer

From the chart   CTS = 118T

T	V	M	D	C
118	+6W	124		
L/W	+5	129	-6E	123

Course to pass to Helm = 123C

8

4

Summary

- Normally draw a "one hour" triangle.
- Draw a line from the original position to the destination **and beyond**. This represents the course over ground (COG).
- Lay off the tide from the start position.
- Set the dividers to the expected boat speed and with one point on the end of the tide vector, arc off on the COG. Join these points and read off CTS with plotter.
- Correct for leeway (if necessary) before passing the course to the helm.

AXE YACHT CLUB

9

Anticipated Speed Made Good

When using a "one hour" triangle, measure the distance from the starting point to the intersection of the CTS with the COG.

This will give you your "speed over ground" (SOG).

AXE YACHT CLUB

10

Time To Run

The expected time taken to reach the destination can be found from the distance to run (DTR) and the expected speed over ground (SOG).

The time taken, in minutes, will be:

(DTR ÷ SOG) x 60

Distance to run (DTR) is the distance from the original position to the destination, measured along the course over ground (COG).
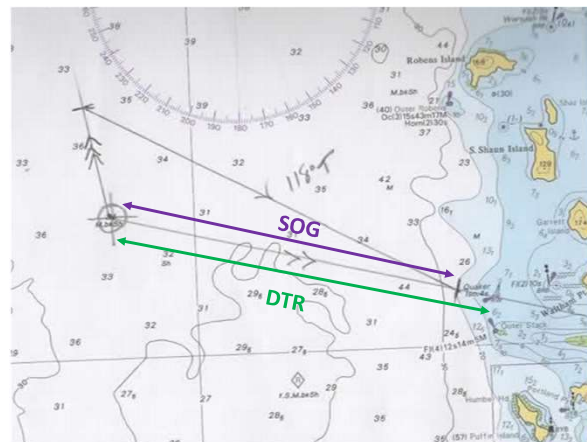
AXE YACHT CLUB

11

In this example:

SOG = 5.1 kn

DTR = 5.7 nm

TTR   = (5.7 ÷ 5.1) x 60
        = 67 mins

12

IRPCS Chapters 6 & 7

13

Light and Day Shape Recognition

otherwise known as

"What the heck is that?"

14

Instructions

- On each of the following slides there are a number of vessels showing their navigation lights.
- Try to identify each vessel, say which aspect of the vessel you are looking at, and which way the vessel is moving.
- Imagine that you are the skipper of a 12m power boat and that you are looking forward from the wheelhouse; describe the action that you would take in each case.
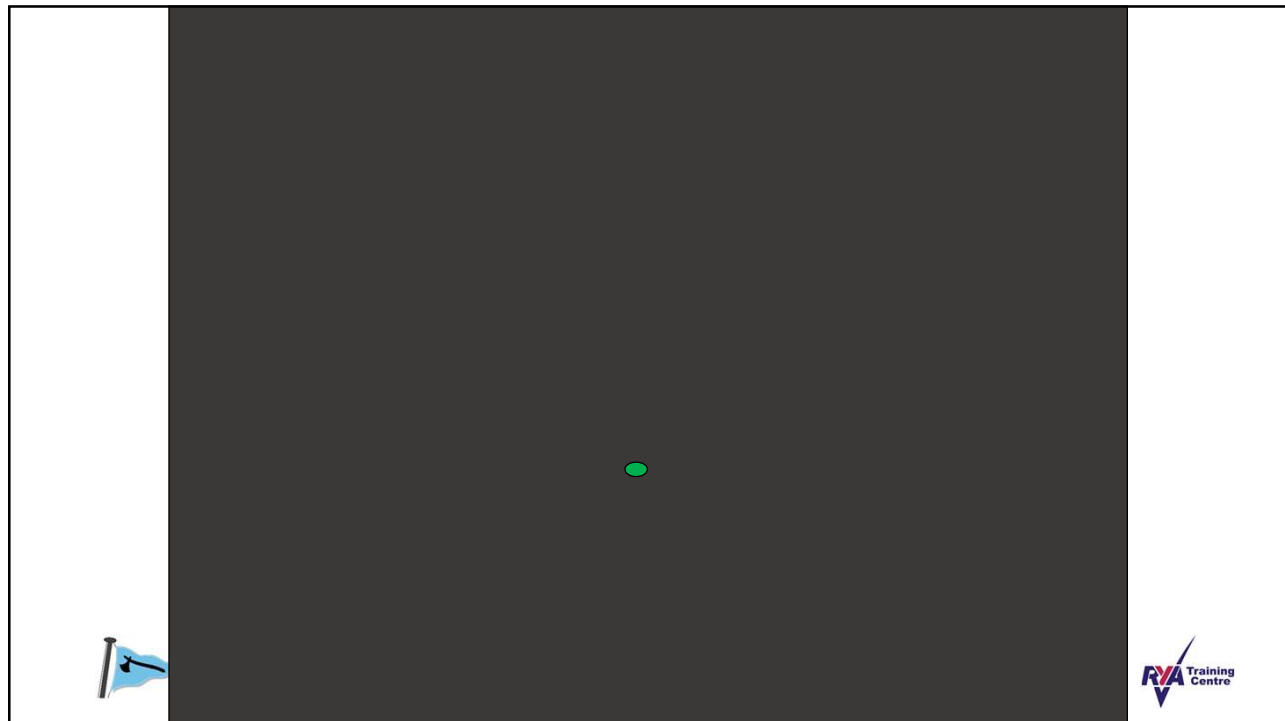- There is one vessel on the first slide.

15
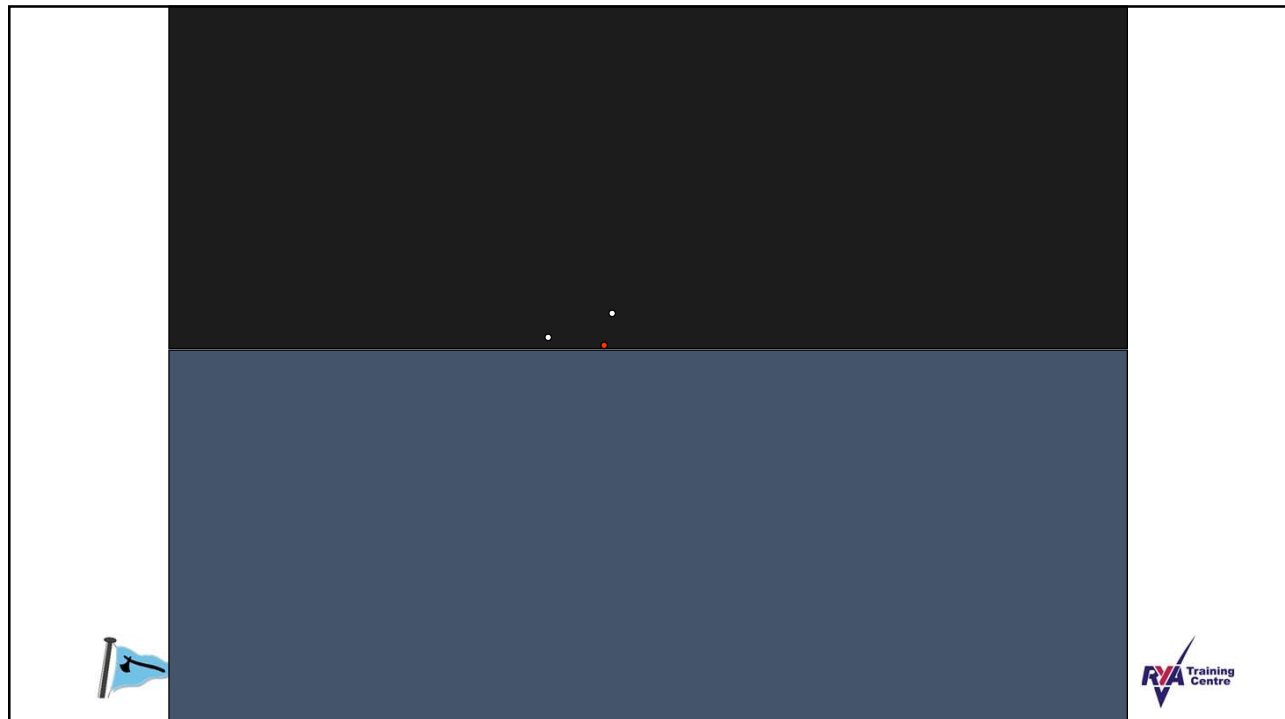
16

Answer

- Power driven vessel
- >50m in length
- port side to
- moving right to left
- if danger of collision exists, alter course to starboard
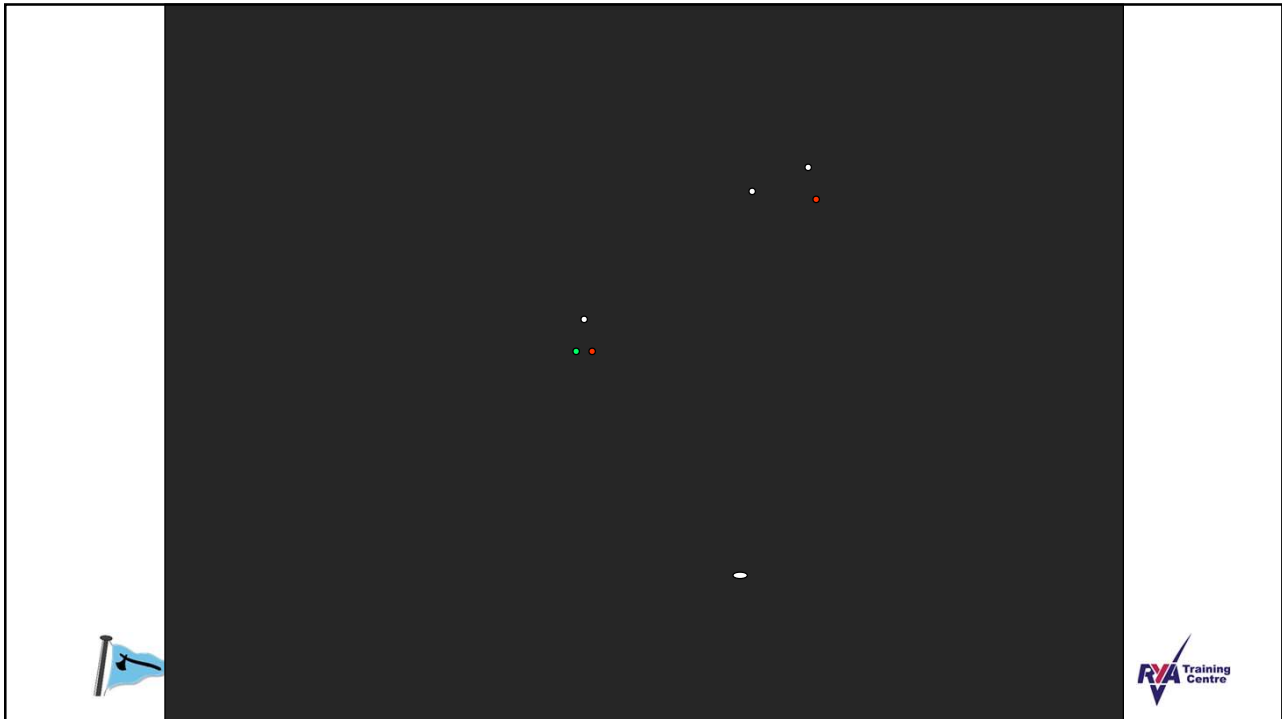- There is one vessel on the next slide

17

18

Answer

- Vessel under sail seen from the starboard side
- Alter course to port to pass well astern.
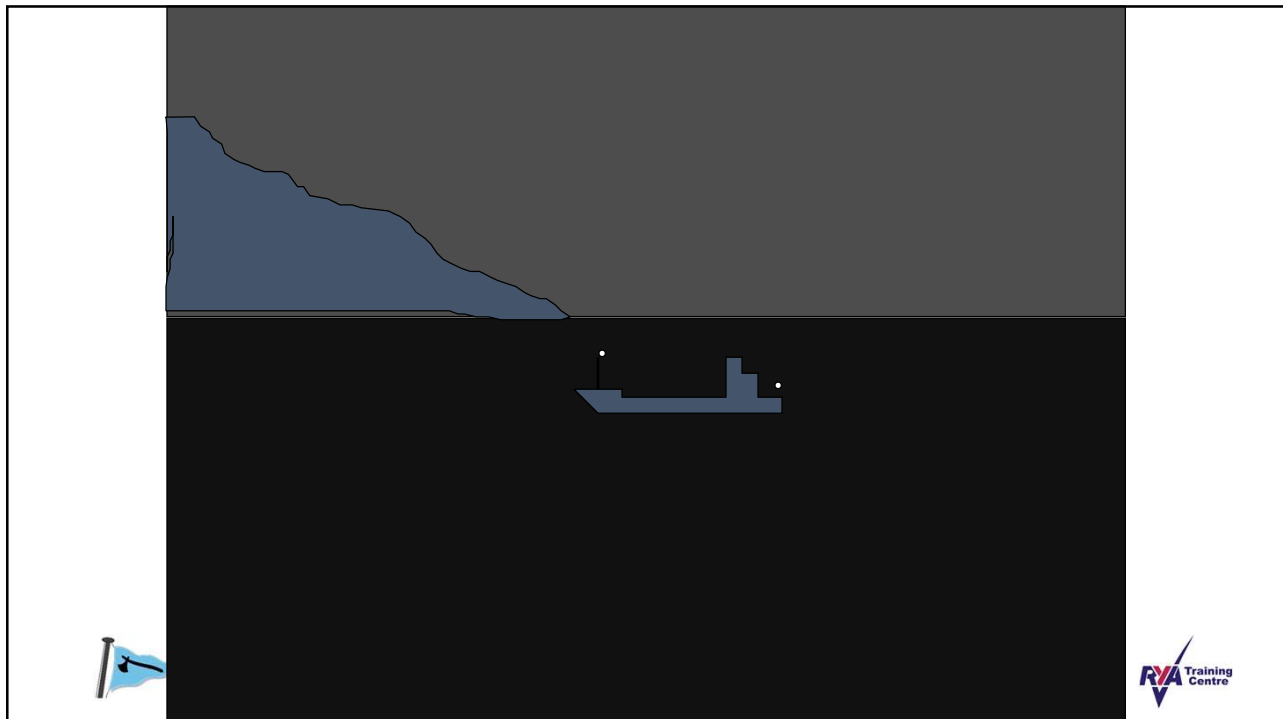- There are three vessels on the next slide.

19

20

Answer

- The closest vessel to you is immediately ahead. We cannot tell what it is, but it is stern to and is moving in the same direction as we are. The best course of action is to alter course to starboard to overtake. This will also keep us clear of the other vessels.

- The second vessel in the middle distance is a power driven vessel, less than 50m in length and we are looking at its bow. Ensure that you pass port side to port side.

- The third vessel is a power driven vessel >50m in length. We are looking at its port side and it is moving from two o'clock to eight o'clock (taking 12 as straight ahead). A/C to starboard to pass port to port.

- There is one vessel on the next slide.

21

22

Answer

- This is a vessel at anchor >50m in length (but probably less than 100m as no deck lights).
- Seen from the port side.
- Keep well clear, preferably passing astern.
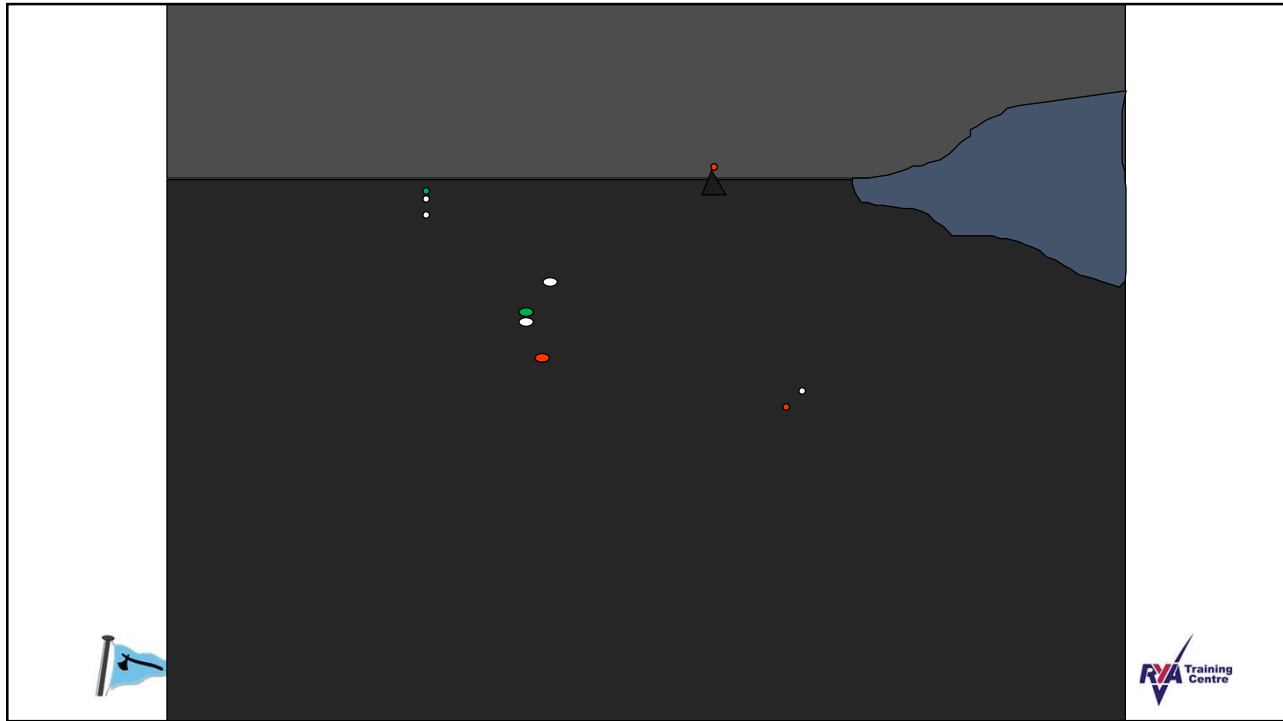- There are four vessels in the next slide.

23

Answer

- This is a power driven vessel >50m, which is restricted in its ability to manoeuvre. It is bow on to us.
- We must keep clear. Alter course boldly to starboard to pass port side to port side.
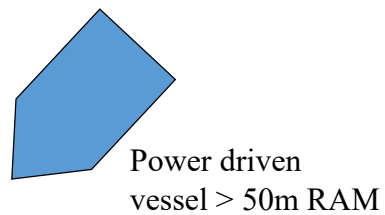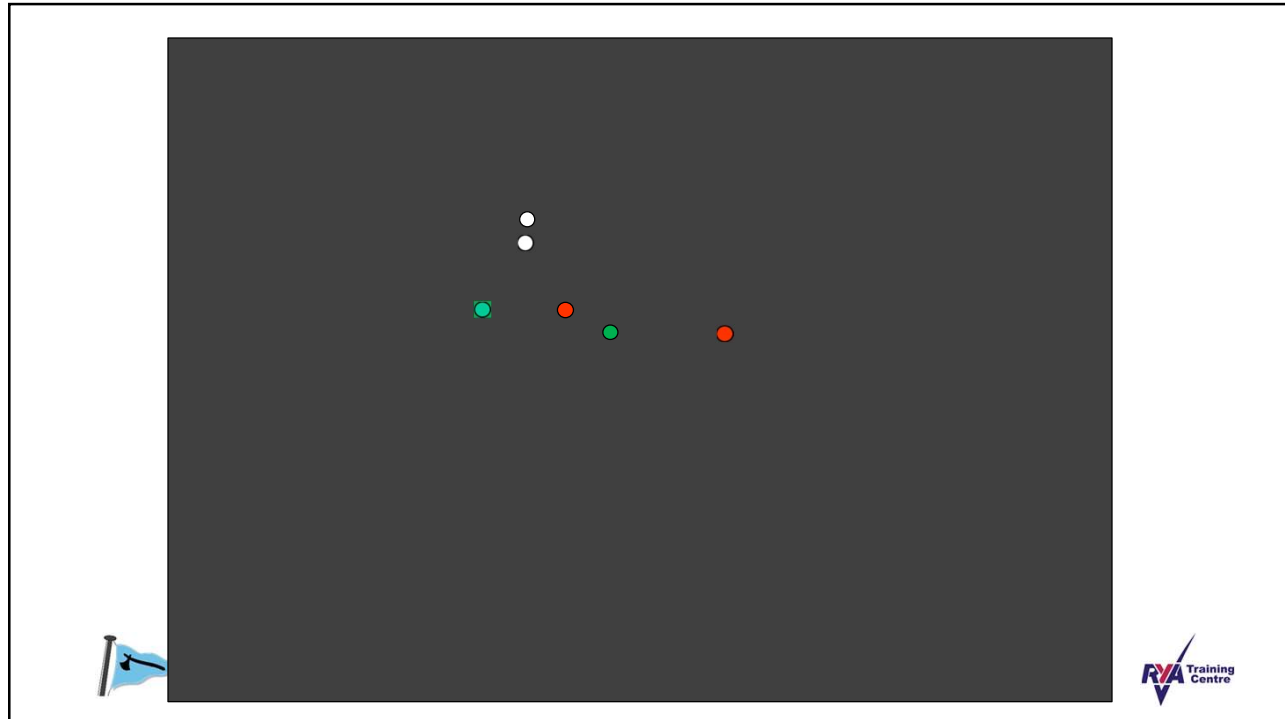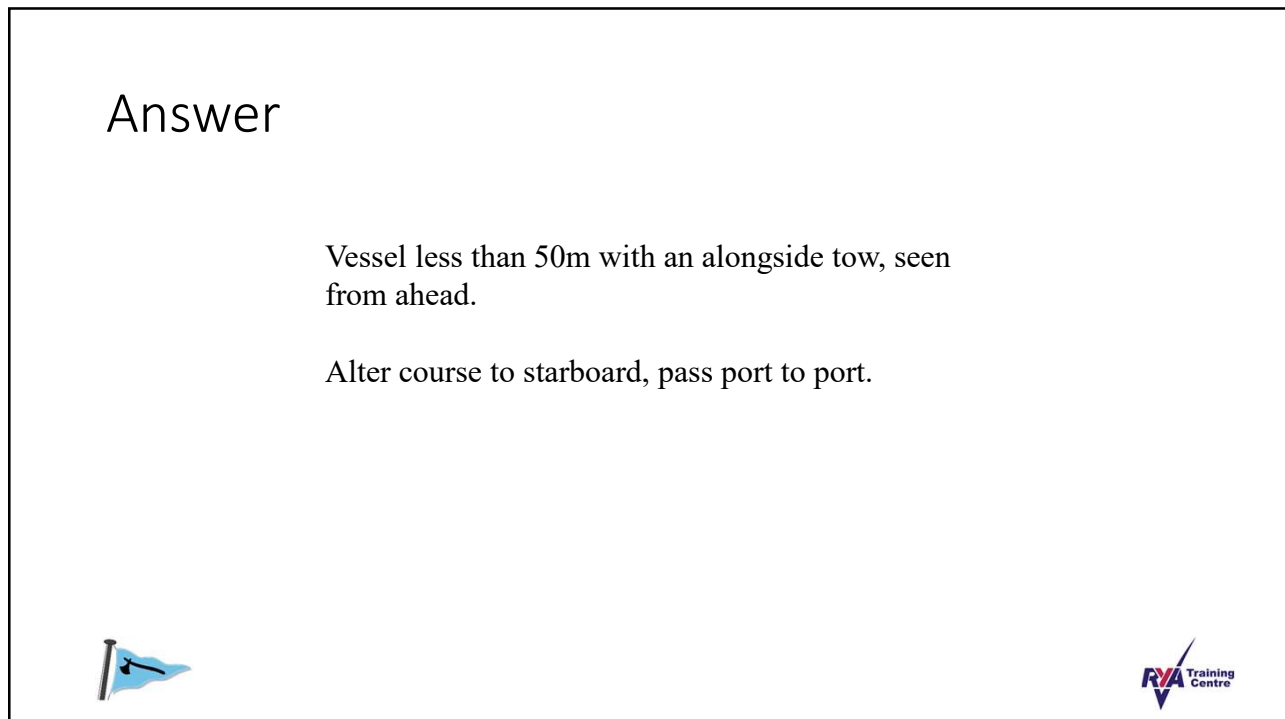- There are three vessels in the next slide.

24

25

Answer

- The closer vessel is a Pilot boat seen bows on.
- The larger vessel is a power driven vessel >50m in length and restricted in its ability to manoeuvre .
- Alter course to starboard to keep clear of both
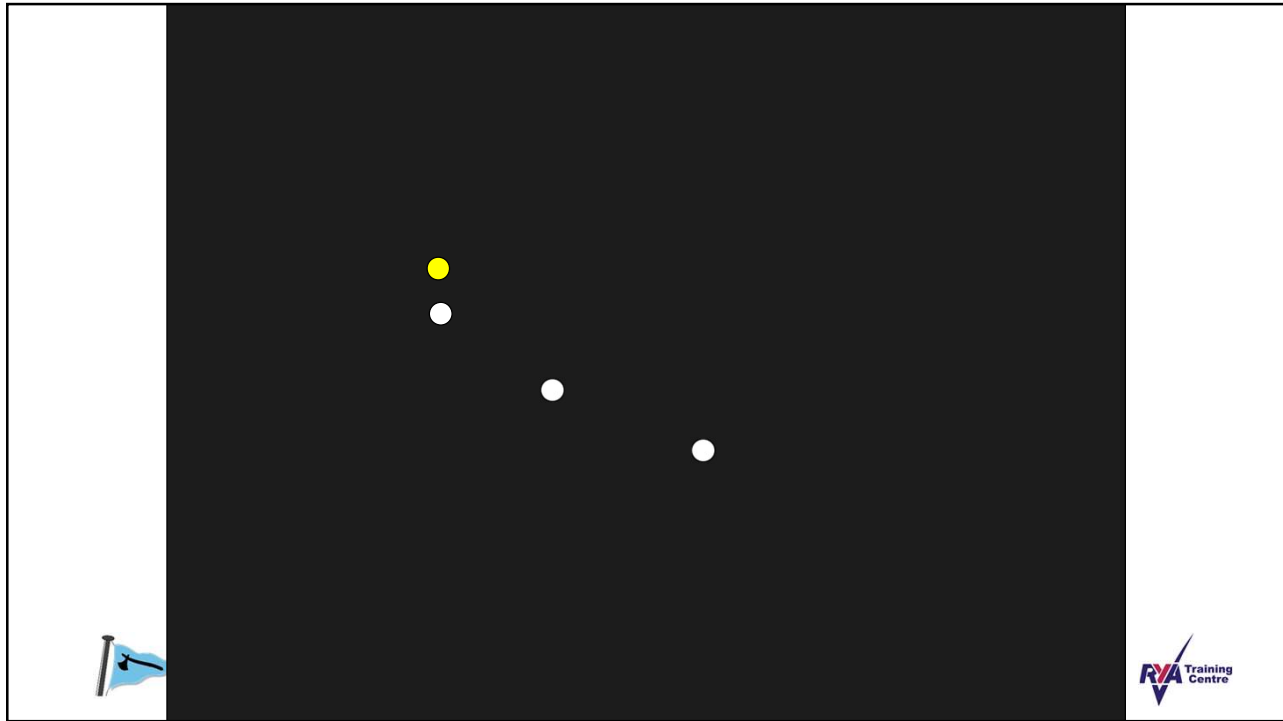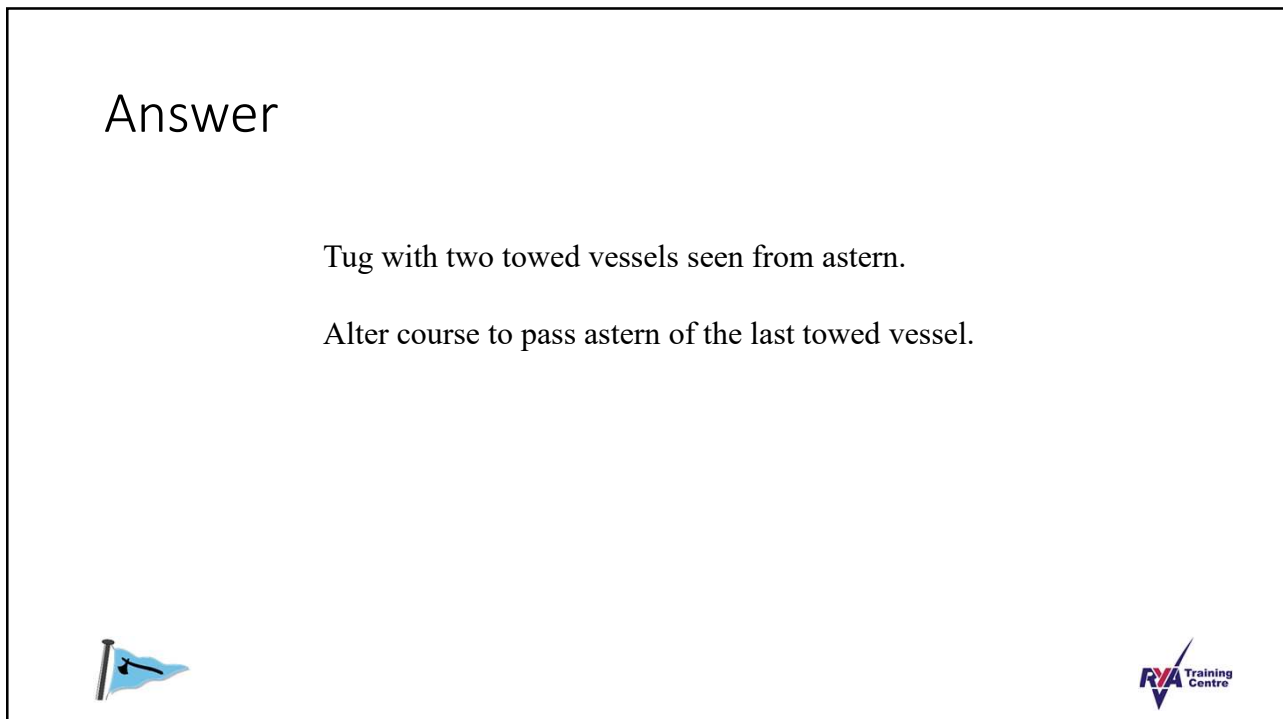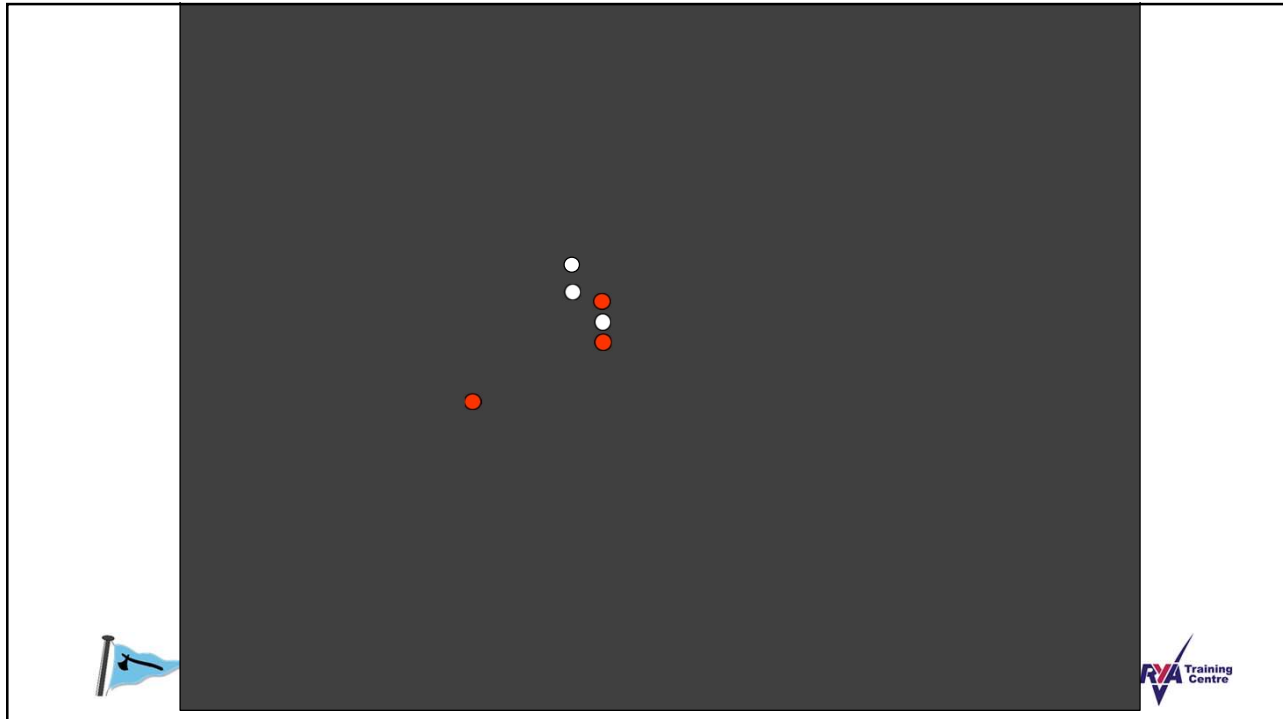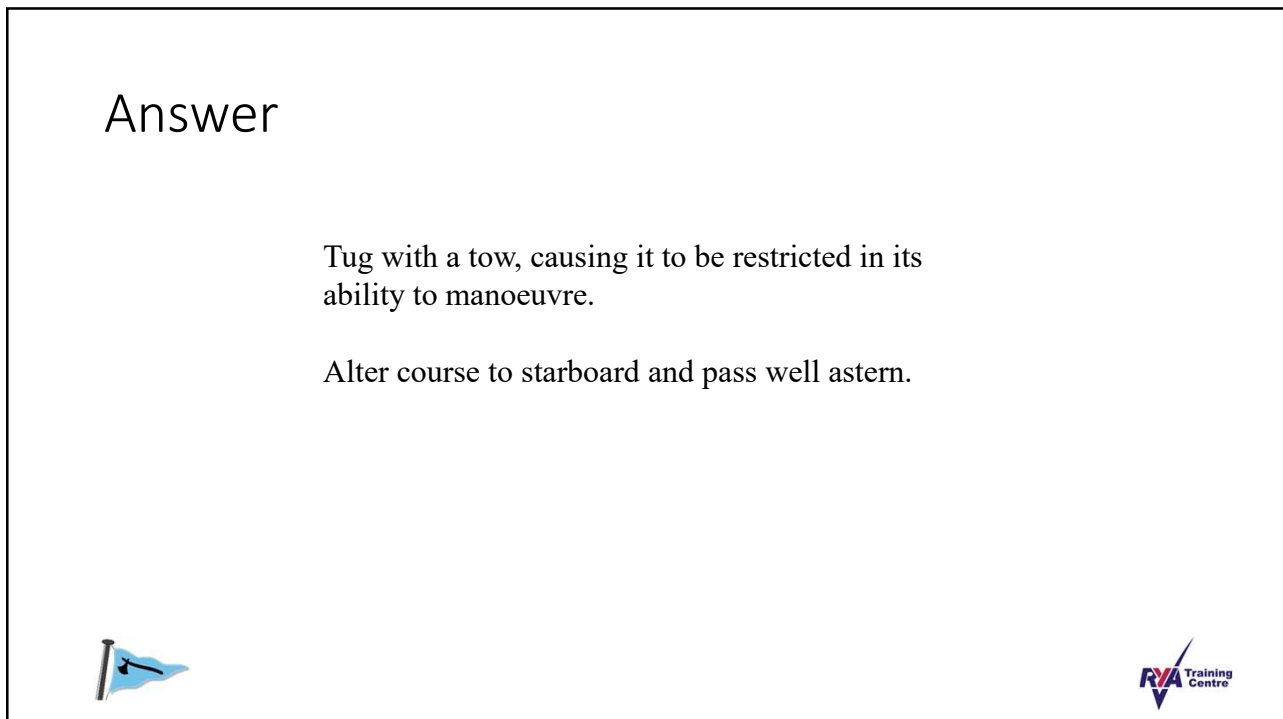- There is one vessel in the next slide

Power driven
vessel > 50m RAM

Pilot vessel

You

26

27

Answer

Vessel less than 50m with an alongside tow, seen from ahead.

Alter course to starboard, pass port to port.

28

29

Answer

Tug with two towed vessels seen from astern.

Alter course to pass astern of the last towed vessel.

30

31

Answer

Tug with a tow, causing it to be restricted in its ability to manoeuvre.

Alter course to starboard and pass well astern.

32

33

34

35

36

14/12/2023
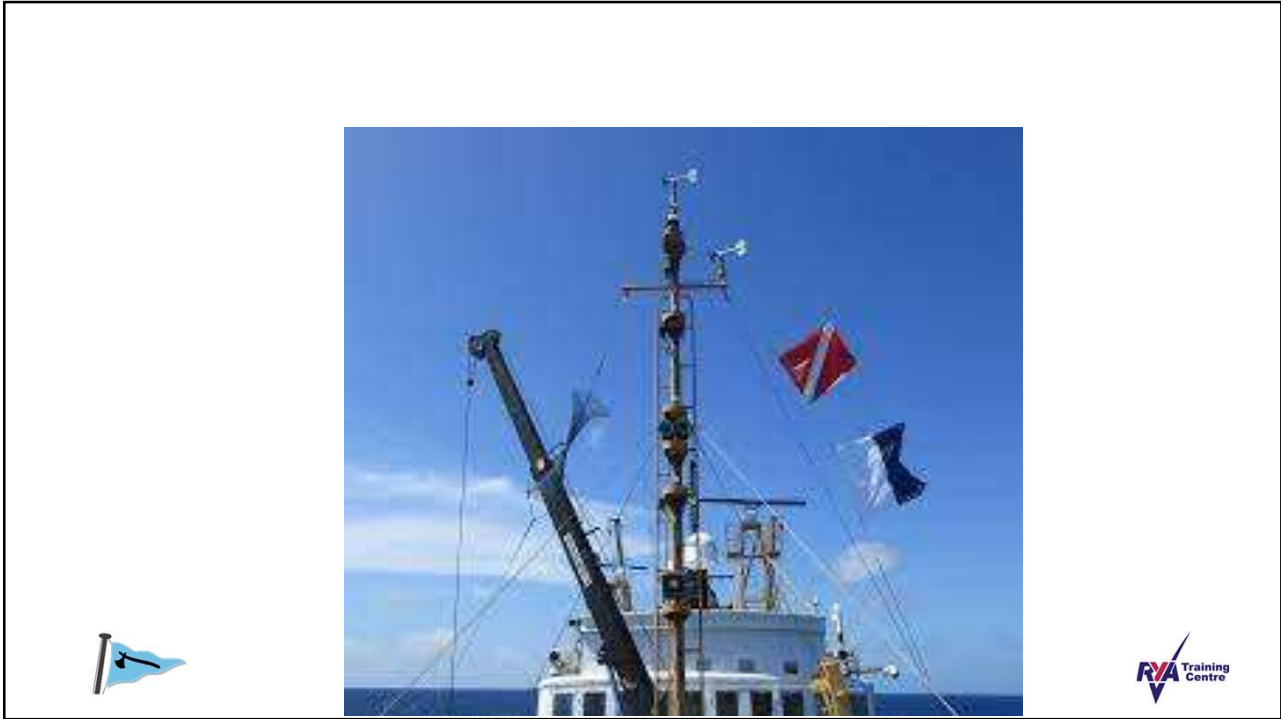

37

38

Homework

Reading:

CN pp 28 – 29

CN pp 53 – 59

Exercise "Tidal Streams" for week 12.

Send to Tim by 29 Dec.

39