

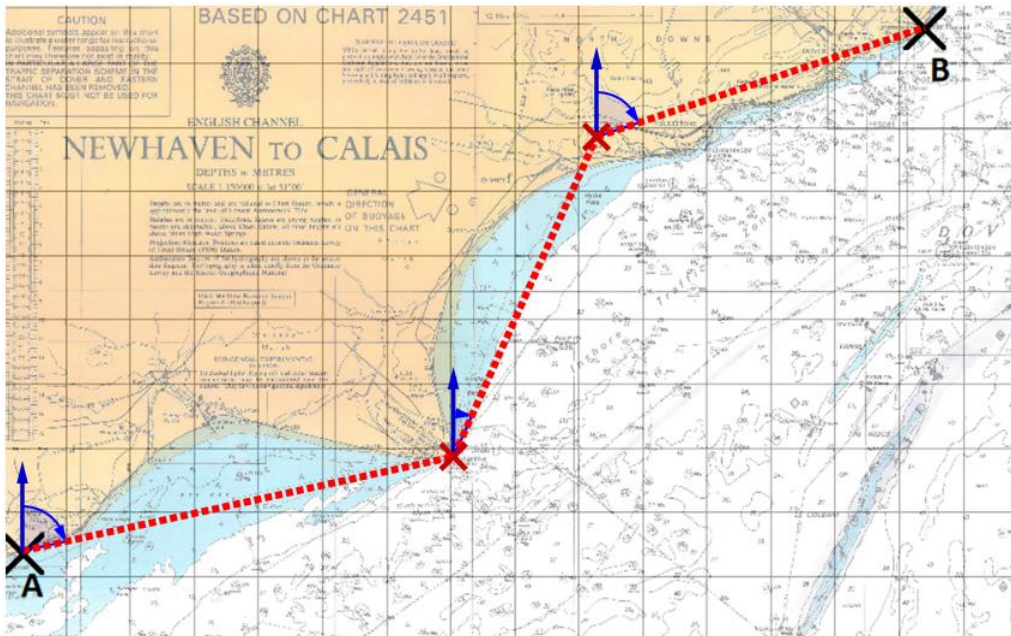
Bearings Course Plotter

Key facts:

- A bearing is measured **clockwise, from North** and is written with **three-figures** (eg: 015° or 228.5°).

The task:

- Plot a route on the map for an aeroplane to follow, staying as close to the coastline as possible, with exactly **three** legs of the journey (that is, **two** changes of direction):



Begin at the point marked A, and finish at B.

- For each leg, give the **distance (km)** and the **bearing**.
For example:

Leg	Distance	Bearing
Leg 1	267km	078°
Leg 2	210.5km	024°
Leg 3	209km	072°

Plot your course using the table below:

Leg	Distance (scale: 1cm: 25km)	Bearing (clockwise, from North)
Leg 1:		
Leg 2:		
Leg 3:		

Once you're done, enter your values into the spreadsheet to test the accuracy of your directions:

Following these directions takes me to within km of B.

(the distance between A and B is around 650km, so if you are off by only 20km or so, your measurements are pretty good!)

Spreadsheet can be found at:

http://www.thechalkface.net/resources/Bearings_Vectors_Conversion.xls

CAUTION

Additional symbols appear on this chart to illustrate a wider range for instructional purposes. Features appearing on this chart may therefore not exist in reality. IN PARTICULAR, A LARGE PART OF THE TRAFFIC SEPARATION SCHEME IN THE STRAIT OF DOVER AND EASTERN CHANNEL HAS BEEN REMOVED. THIS CHART MUST NOT BE USED FOR NAVIGATION.

BASED ON CHART 2451



WARNING OF SHALLOW WATERS
With wind and/or tide on, a vessel is liable to strike rocks or shoals. The danger is especially acute in narrow channels and in the vicinity of rocks and shoals. It is the responsibility of the vessel to know the limits of its own draft.

ENGLISH CHANNEL.

NEWHAVEN TO CALAIS

DEPTHS IN METRES

SCALE 1:150000 or 31 51'00"

GENERAL DIRECTION OF BUOYAGE ON THIS CHART

Depths are in metres and are reduced to Mean Low Water, which is approximately the level of Lowest Astronomical Tide. Heights are in metres. Unattended buoys are shown as follows: in metres are indicated, above them their true height and above them High Water Springs. Positions are based upon the Ordnance Survey of Great Britain (1996) Datum. Authorities Sources of the hydrography are shown in the soundings data diagram. The topography is taken largely from the Ordnance Survey and the British Geological Survey.

1:50,000 Metric Boreas System
British A (Red Top)

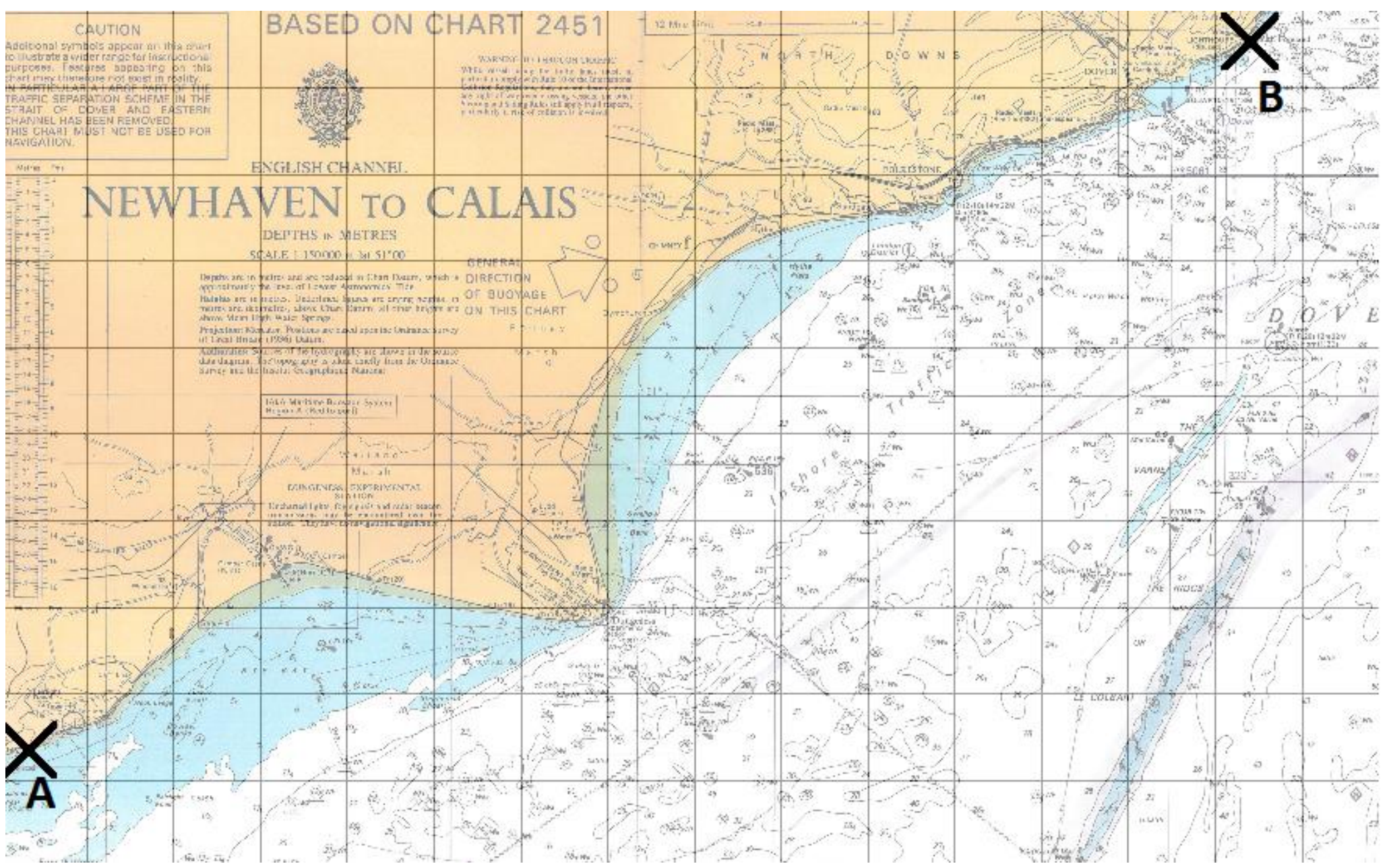
DUNGENESS EXPERIMENTAL STATION

Triangular light. The light is of red colour and is visible in all directions. The light is of the type known as a 'daymark'.



X
A

X
B



Extension task

A plane is sighted at 06:00, on a bearing of 090° from A , and a bearing of 180° from B .
At 06:20 the bearing from A is 086° , and the bearing from B is 200° .

By marking these two positions on the chart, use the scale ($1\text{cm}: 25\text{km}$) to calculate the approximate speed of the plane, and predict **when** and **where** it will first be over land.

Predict **when** the plane will be **due north of A** , assuming it remains on the same course.
Calculate the **bearing from B** that you would expect at this time.

Solutions

Travelling at around 375 kmph . Should make land at around 06:53.

Will be due north of A at around 07:40, on a bearing of 108° from B .