150°

150° + 180°

= 330°

**North**

**North**

Birmingham airport’s runway has the number ‘15’ at one end. This tells the pilot that the required **bearing** for the approach is 150°. The number ‘33’ is at the other end.

Find it [here](http://goo.gl/maps/9SKqm)

**Task 1**

For each of the following airports, one number at the end of a runway is given. Find the number at the other end. Draw a diagram to help explain the reasoning.

* Newcastle: 07
* Helsinki: 04
* Manchester: 23
* Sydney: 16
* Inverness: 30
* Singapore: 20

**Task 2**

***Bear this in mind …***

*To use a bearing correctly:*

* *Measure from North*
* *Measure clockwise*
* *Always use three figures*

Over the page there is some information taken from the toposcope on the Worcestershire Beacon. For each place, measure the bearing and write a sentence such as:

*Brown Clee Hill is 27 miles from the Worcestershire Beacon on a bearing of \_\_\_\_\_\_°*

Brown Clee Hill

27 miles

Stourport-on-Severn

15 miles

Worcester

8 miles

35 miles

Hay Bluff

13 miles

Bredon Hill

Tewkesbury

11 miles

Monmouth

25 miles

**N**

**Task 3**

*You will need to create scale diagrams in order to solve these problems. Choose a sensible scale and use a sharp pencil, ruler and protractor. You also need compasses for question 3.*

1. An aeroplane leaves an airport and flies 600 km on a bearing of 032°. It then changes to a bearing of 281° and flies 550 km.

* At the point where the aeroplane was due North of the start, how far was it from the airport?
* What is the straight line distance between the start point and end point of the flight?

1. An aeroplane flies 240 km on a bearing of 107°, then 420 km on a bearing of 071°, and finally 500 km on a bearing of 295°.

* What is the bearing **of** the end point of the journey **from** the start point?
* What distance would the pilot have flown if he had been able to travel directly?

1. A pilot intends to fly between airports for 600 km on a bearing of 195°. After 500 km, air traffic control informs him that he is actually 180 km from the airport. Assuming that he has flown in a straight line:

* Mark the aeroplane’s two possible positions on a diagram.
* Find the two possible bearings for the flight.