



Headquarters Air Cadets Examination

Leading Cadet
32/2 Basic Navigation
Generated 07-Aug-03

Serial: 511

1. Use black or dark blue pen, NOT pencil.
2. Mark one answer per question with a cross.
3. If you wish to change an answer, cancel the original mark and mark another single answer.

A selected answer.

A cancelled answer.

Mark:

Name and Initials _____

Date of Exam _____

Date of Birth _____

Squadron/Unit _____

Wing _____

1 What happens to the lines of longitude as they approach the north pole:

- a They get closer together
- b They stay parallel
- c They move apart
- d They follow the grid lines exactly

2 Positioning your map to relate to features on the ground is called:

- a Ranging the map
- b Organising the map
- c Sighting the map
- d Setting the map

3 Correctly orientating your map will help you to:

- a Measure distances more accurately
- b Read place names more easily
- c Read the numbers on contour lines more easily
- d Determine your approximate location more easily

4 Which star group can be used to find the Pole Star:

- a The Crab Nebula
- b The Great Bear
- c Orion's Belt
- d The Milky Way

5 A freely-suspended magnetic needle will point:

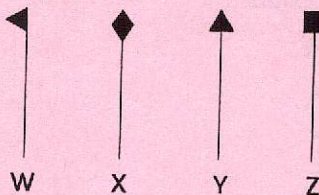
- a Straight down to the ground
- b To grid north
- c To the magnetic north pole
- d To the geographical north pole

6 Which of the following statements about the direction of magnetic north from locations in the UK, is true?

- a It is the same as grid north
- b It differs from both true and grid north
- c It is the same as true north
- d It is the same as both true and grid north

7 Which of these symbols represents true north?

- a W
- b Z
- c X
- d Y



8 The angular difference between grid north and magnetic north is:

- a Magnetic difference angle
- b Magnetic variation
- c Grid magnetic angle
- d Grid variation

9 Where on a M726 OS map is the Technical Information giving details of magnetic variation located:

- a On the back of the map
- b On the extreme left of the map
- c At the top of the map
- d At the bottom right side of the map

10 When using a magnetic compass, why is it particularly important to hold it horizontal when taking a reading?

- a To minimise the effect of local magnetic attraction (eg. from wire fences, electric cables, etc)
- b To improve damping
- c To eliminate compass errors
- d To ensure that the needle floats freely

11 What is compass deviation?

- a The effects of non-magnetic and non-ferrous metals on a compass needle
- b The difference between magnetic north and grid north
- c The difference between magnetic north and true north
- d The effects of nearby ferrous metals or magnetic materials on a compass needle

12 When setting a map with a compass what is the first action:

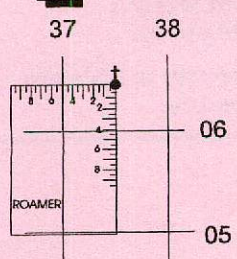
- a Determine the grid magnetic angle and set this value against the direction arrow of the compass
- b Turn the map and compass together until the compass needle falls inside the orienting arrow
- c Place the compass onto the map with the long edge on a north/south grid line
- d Set the map down on a firm non-magnetic surface

- 13 When using a compass to take a bearing on a distant object you would first of all:
- a Point the direction of travel arrow at the object
 - b Align the red compass needle to point at the object
 - c Turn the capsule so that the orientating arrow points at the object
 - d Turn the capsule to subtract the grid magnetic angle

- 14 The direction of a track drawn between two places on a map is measured against the grid-lines and found to be 102degrees (Grid). If magnetic north is 5degrees west of grid north, what is the magnetic bearing of the track?
- a 095degrees (M)
 - b 102degrees (M)
 - c 097degrees (M)
 - d 107degrees (M)

- 15 When walking on a bearing in good visibility, the best technique is to:
- a Send a team member out 50 metres and walk to there
 - b Select a distant feature that is along your intended direction of travel
 - c Select an object 5 metres in front and walk to it
 - d Follow your compass and ignore the countryside

- 16 The 6 figure GR shown would be:
- a 375 064
 - b 064 375
 - c 385 056
 - d 056 385

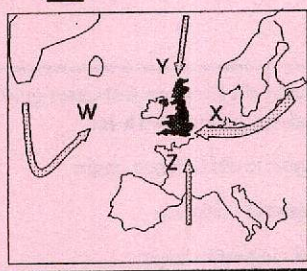


- 17 How much time should be added to a journey on foot for every 200 metres climbed, using Naismith's rules?
- a 15 minutes
 - b 30 minutes
 - c 20 minutes
 - d 25 minutes

- 18 When navigating, in order to reduce the area of uncertainty to a minimum, you should:
- a Always follow paths
 - b Never follow contours
 - c Measure distances and bearings as accurately as possible
 - d Walk as quickly as possible to your destination

- 19 Following linear features to guide you close to your destination is known as:
- a Using attack points
 - b Handrailing
 - c Aiming off
 - d Contouring

- 20 Which air mass is called Polar Continental?
- a W
 - b Y
 - c X
 - d Z



- 21 An occluded front is represented by:
- a A line carrying alternate semicircles and triangles
 - b A line carrying semicircles
 - c A line carrying squares
 - d A line carrying alternate semicircles and squares

- 22 An area of low pressure is also known as:
- a A depression
 - b A warm front
 - c An occluded front
 - d An anticyclone

- 23 Isobars are lines drawn on a weather map joining points of equal:
- a Temperature
 - b Windspeed
 - c Pressure
 - d Humidity

- 24 Upper winds are generally responsible for:
- a Poor weather
 - b Movement of a depression
 - c Fine weather
 - d The strength of the surface wind

- 25 Stratus is what type of cloud:
- a Featureless layer
 - b Thread-like
 - c Lumpy or heaped
 - d Hair-like