



Headquarters Air Cadets Examination

Leading Cadet
32/2 Basic Navigation
Generated 03-Jul-00

Serial: 225

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 The difference between grid north and true north in the UK:
- Changes a little each year
 - Is at least 2 degrees in most places
 - Always equals zero degrees
 - Is not more than 2 degrees in most places

2 Setting a map is also known as:

- Orientating
- Mapping
- Turning
- Clocking

3 Why is it important to set a map before using it in the field?

- So that names printed on the map may be read more easily
- So that features on the ground seen by the observer can be easily related to features on the map
- So that a compass can be used to follow the required direction over the ground
- So that distances can be measured more easily

4 Which of the following is not a method for determining north without a compass:

- Finding wind direction
- Finding the pole star from The Plough
- Using the shadow from a stick
- Using a watch with the sun

5 Which physical property of the Earth do we use, when navigating using a compass?

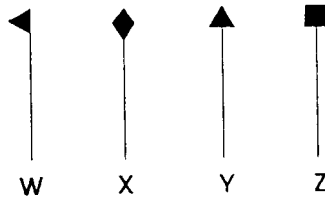
- It has a magnetic field
- It rotates clockwise
- It has a gravitational field
- The surface is covered with lines of latitude and longitude

6 Which north changes its position slightly over the years?

- Geographic north
- Grid north
- Magnetic north
- True north

7 Which of these symbols represents magnetic north?

- W
- X
- Y
- Z



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

- Grid variation
- Magnetic difference angle
- Magnetic variation
- Grid magnetic angle

9 Where on an M726 OS map is the information on magnetic variation located:

- On the extreme left of the map
- At the bottom of the map
- On the back of the map
- At the top of the map

10 What is the purpose of liquid in the capsule of a compass?

- Allows the needle to be seen more clearly
- Increases the needle's sensitivity
- Allows the needle to settle down quickly
- Prevents the needle from moving

11 What is compass deviation?

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

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

- Place the compass onto the map with the long edge on a north/south grid line
- Turn the map and compass together until the compass needle falls inside the orienting arrow
- Determine the grid magnetic angle and set this value against the direction arrow of the compass
- 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:

- Turn the capsule to subtract the grid magnetic angle
- Point the direction of travel arrow at the object
- Align the red compass needle to point at the object
- Turn the capsule so that the orientating arrow points at the object

14 The direction of a line drawn between two places on a map is measured against the grid lines and found to be 110degrees (Grid). If magnetic north is 6degrees west of grid north what is the magnetic bearing of the line?

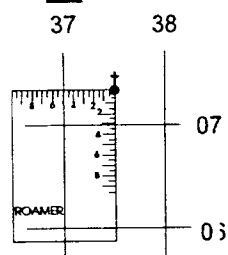
- a 104degrees (M)
- b 108degrees (M)
- c 116degrees (M)
- d 110degrees (M)

15 If you wanted to fix your position on a map by reference to prominent landmarks within your field of vision, what would give the best result?

- a Three bearings crossing to give a large position triangle
- b Two bearings crossing
- c One bearing giving a position line
- d Three bearings crossing to give a small position triangle

16 The 6 figure GR shown would be:

- a 375 073
- b 072 375
- c 074 385
- d 385 074



17 You are at a point where variation is 2 degrees W, and Grid Magnetic Angle is 5 degrees W. If the compass bearing of a church is 350 degrees what is its Grid bearing?

- a 348 degrees
- b 345 degrees
- c 347 degrees
- d 343 degrees

18 Pacing can be an accurate method of measuring distance if carried out over:

- a Medium distances
- b To a count of 5,000
- c Long distances
- d Short distances

19 Measuring distances accurately whilst out walking helps you particularly to:

- a Calculate magnetic variation
- b Reduce the area of uncertainty in your position
- c Choose the shortest route
- d Calculate the gradient

20 Handrailing is the term for:

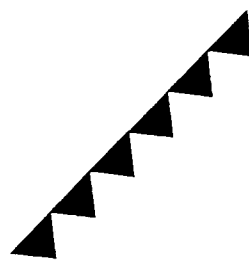
- a Following linear features to get to your destination
- b Aiming for a prominent feature close to your destination
- c Walking on a compass bearing
- d Walking with your map set

21 Which of these types of air mass brings cold dry weather with little or no cloud to the British Isles in winter?

- a Polar continental via the short sea-track
- b Polar maritime
- c Returning polar maritime
- d Polar continental via the long sea route

22 The diagram shows:

- a Occluded front
- b Warm front
- c Anti-cyclone
- d Cold front



23 An area of low pressure is also known as:

- a An anticyclone
- b A warm front
- c An occluded front
- d A depression

24 Isobars are lines drawn on a weather map joining points of equal:

- a Temperature
- b Pressure
- c Windspeed
- d Humidity

25 Cloud names may have a prefix which indicates the height of the cloud base. Which of these indicates a cloud with a base at medium level?

- a Nimbo
- b Cirro
- c Alto
- d Strato