



Headquarters Air Cadets Examination

587

Leading Cadet
32/2 Basic Navigation
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Serial: 58

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 Grid lines on a map:

- a Point to true north
- b Point to grid north
- c Follow lines of latitude and longitude exactly
- d Get closer together approaching the poles

2 Setting or orientating a map is:

- a Folding it correctly for use outdoors
- b Holding it flat and horizontal
- c Positioning your map relative to the features on the ground
- d Holding it so that the contour numbers are the right way for reading

3 Correctly orientating your map will help you to:

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

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

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

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

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

6 The Earth's magnetic pole is located:

- a In the same place as the grid north pole
- b In the same place as the true north pole
- c Slightly north of Hudson Bay in Canada
- d In northern Siberia

7 What does this symbol represent?

- a Grid north
- b Magnetic north
- c Polar north
- d True north



8 Magnetic Variation is:

- a The angular difference between grid lines and lines of longitude
- b The angular difference between grid north and magnetic north
- c The angular difference between true north and grid north
- d The angular difference between true north and magnetic north

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

- a In the extreme left hand side of the map
- b At the centre of the top margin
- c At the centre of the bottom margin
- d On the back of the map

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

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

11 Which of the following would be most likely to cause magnetic deviation if close to a compass:

- a A tree
- b A cattle grid
- c A plastic water bottle
- d Aluminium tent pole

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

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

13 To take a bearing between 2 features on a map you would first place the compass on the map so that its longest edge runs through both features and its direction of travel arrow points in your intended direction of travel. You would then:

- a Turn the capsule on the compass to deduct the grid magnetic angle
- b Turn the map and compass together until the needle falls into the orienting arrow
- c Turn the capsule on the compass until the needle falls into the orienting arrow
- d Turn the capsule on the compass so that its orienting lines are parallel to the north-south grid line

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?

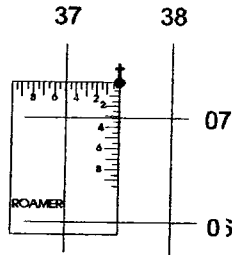
- a 095degrees (M)
- b 102degrees (M)
- c 107degrees (M)
- d 097degrees (M)

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

16 The 6 figure GR shown would be:

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



17 You are at a point where variation is 1 degree W, and Grid Magnetic Angle is 6 degrees W. If the compass bearing of a trig point is 150 degrees what is its Grid bearing?

- a 144 degrees
- b 156 degrees
- c 143 degrees
- d 157 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 Short distances
- d Long distances

19 A cadet decides to follow a stream down from the hill-side because she knows that the stream runs close to her campsite. The cadet is using a navigational technique known as:

- a Handrailing
- b Resection
- c Contouring
- d Aiming off

20 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 Returning polar maritime
- c Polar continental via the long sea route
- d Polar maritime

21 Fronts occur where:

- a A cold air mass meets a warm air mass
- b Two warm air masses meet
- c The atmospheric pressure is very high
- d Two cold air masses meet

22 Generally, an area of high pressure will tend to bring:

- a Fast moving wet weather systems
- b Long periods of fine weather
- c Long periods of poor weather
- d Fast moving fine weather systems

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

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

24 Upper winds are generally responsible for:

- a The strength of the surface wind
- b Fine weather
- c Poor weather
- d Movement of a depression

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 Alto
- b Strato
- c Cirro
- d Nimbo