



Headquarters Air Cadets Examination

Leading Cadet
32/2 Basic Navigation
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Serial: 427

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 true north and grid north arises because:
- Lines of latitude and longitude do not match grid lines exactly
 - Lines of latitude and longitude match grid lines exactly
 - Grid lines get closer together near the poles of the Earth
 - Lines of latitude are not parallel

2 Setting a map is also known as:

- Orientating
- Turning
- Clocking
- Mapping

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

- The Milky Way
- The Great Bear
- The Crab Nebula
- Orion's Belt

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

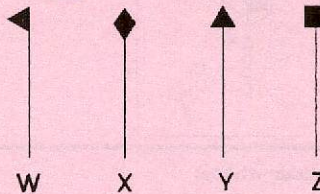
- It rotates clockwise
- It has a gravitational field
- The surface is covered with lines of latitude and longitude
- It has a magnetic field

5 The position of the magnetic north pole:

- Only changes when new maps are issued
- Is fixed and remains in the same place constantly
- Is the same as the true north pole
- Is not fixed but changes its position a little every year

6 Which of these symbols represents true north?

- Y
- X
- W
- Z



7 Magnetic Variation is:

- The angular difference between grid north and magnetic north
- The angular difference between true north and grid north
- The angular difference between true north and magnetic north
- The angular difference between grid lines and lines of longitude

8 The angular difference between magnetic north and grid north on a map is known as:

- Grid deviation angle
- Grid magnetic angle
- Magnetic deviation angle
- Compass deviation angle

9 What information is provided at the bottom of an M726 OS map?

- Magnetic variation
- Sheet number
- Abbreviations
- Grid magnetic angle

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

- A tree
- A plastic water bottle
- A cattle grid
- Aluminium tent pole

12 The final step in setting a map with a compass is to:

- Turn the compass only until it is pointing at north
- Turn the map and compass together until the needle is inside the orientating arrow
- Turn the map and compass together until the needle is pointing south
- Turn the map only until it is pointing north

13 The bearing of an object taken with a compass is found to be 280degrees(M) and the map shows that Magnetic north is 10degrees west of Grid north. What is the grid bearing?

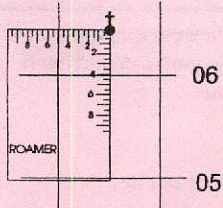
- 280 degrees (Grid)
- 270 degrees (Grid)
- 260 degrees (Grid)
- 290 degrees (Grid)

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

15 The 6 figure GR shown would be:

- a 064 375
- b 056 385
- c 375 064
- d 385 056

37 38



16 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 345 degrees
- b 347 degrees
- c 343 degrees
- d 348 degrees

17 Naismith's Rule applies to the calculation of:

- a The shapes depicted by contour lines
- b The speed of advance on foot in mountainous country
- c True headings from magnetic headings
- d Gradients

18 When navigating, in order to reduce the area of uncertainty to a minimum, you should:

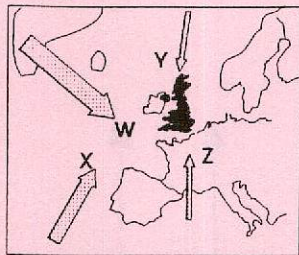
- a Walk as quickly as possible to your destination
- b Always follow paths
- c Never follow contours
- d Measure distances and bearings as accurately as possible

19 Contouring means:

- a Walking over a hill
- b Gaining as much height as possible
- c Losing as much height as possible
- d Walking around a hill

20 Which air mass is called Polar Maritime?

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



21 Fronts occur where:

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

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

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

23 Lines on a weather chart joining points of equal pressure are called:

- a Warm fronts
- b Cold fronts
- c Isobars
- d Occluded fronts

24 Depressions move under the influence of:

- a Upper winds
- b Lower winds
- c Warm fronts
- d Cold fronts

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 Cirro
- b Strato
- c Nimbo
- d Alto