



Headquarters Air Cadets Examination

Leading Cadet
Basic Navigation
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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. When navigating with a map, which north must you always use for reference?

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

2. Orientating a map can also be called:

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

3. Correctly orientating your map will help you to:

- a Measure distances more accurately
- b Read the numbers on contour lines more easily
- 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:

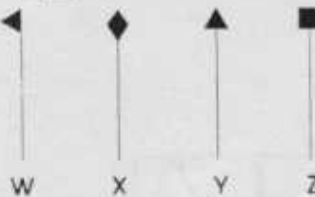
- a Orion's Belt
- b The Great Bear
- c The Crab Nebula
- d The Milky Way

5. The Earth's magnetic pole is located:

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

6. Which of these symbols represents magnetic north?

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



7. Magnetic Variation is:

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

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

- a Grid deviation angle
- b Grid magnetic angle
- c Magnetic deviation angle
- d Compass deviation angle

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

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

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

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

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. 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 capsule on the compass until the needle falls into the orienting arrow
- c Turn the map and compass together 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

13 The direction of a track drawn between two places on a map is measured against the grid-lines and found to be 102° (Grid). If magnetic north is 5° west of grid north, what is the magnetic bearing of the track?

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

14 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 an object 5 metres in front and walk to it
- c Select a distant feature that is along your intended direction of travel
- d Follow your compass and ignore the countryside

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

16 A Roamer would be used in finding:

- a The grid reference point
- b The direction of a track
- c The average gradient
- d A relative bearing

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

- a 343°
- b 347°
- c 348°
- d 345°

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

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

19 Contouring means:

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

20 Which air mass is called Polar Continental?

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



21 An occluded front is represented by:

- a A line carrying alternate semicircles and squares
- b A line carrying alternate semicircles and triangles
- c A line carrying semicircles
- d A line carrying squares

22 An area of low pressure is also known as:

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

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

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

24 Upper winds are generally responsible for:

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

25 Which of these would be found only at high level?

- a Altostratus
- b Altocumulus
- c Cirrostratus
- d Stratocumulus