



Headquarters Air Cadets Examination

Leading Cadet
32/2 Basic Navigation

Generated 15-Jul-02

Serial: 497

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 Actual north
- c Grid north
- d Magnetic north

2 Setting a map is also known as:

- a Clocking
- b Turning
- c Orientating
- d Mapping

3 When using a watch to find north/south what should be pointed towards the sun:

- a The minute hand
- b The hour hand
- c The 12 of the watch face
- d The second hand

4 A freely-suspended magnetic needle will point:

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

5 Which north changes its position slightly over the years?

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

6 What does this symbol represent?

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



7 What is the angular difference between true north and magnetic north called?

- a Magnetic deviation
- b Compass error
- c Magnetic differential
- d Magnetic variation

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

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

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

- a Magnetic variation
- b Sheet number
- c Grid magnetic angle
- d Abbreviations

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

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

11 What is compass deviation?

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

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

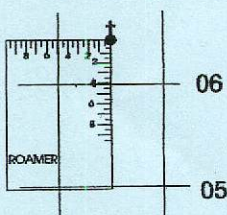
- a Turn the map and compass together until the needle is pointing south
- b Turn the map and compass together until the needle is inside the orientating arrow
- c Turn the compass only until it is pointing at north
- d Turn the map only until it is pointing north

- 13 A grid bearing from a M726 series OS map on which the magnetic variation is westerly, can be converted to a magnetic bearing by:
- a Subtracting the angular difference between grid north and true north
 - b Subtracting the angular difference between magnetic north and grid north
 - c Adding the angular difference between grid north and true north
 - d Adding the angular difference between magnetic north and grid north

- 14 When walking on a bearing in good visibility, the best technique is to:
- a Select an object 5 metres in front and walk to it
 - 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 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 One bearing giving a position line
 - b Three bearings crossing to give a small position triangle
 - c Three bearings crossing to give a large position triangle
 - d Two bearings crossing

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



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

- 18 A cadet is able to walk 1km over reasonably flat ground in 20 mins. How long would it take him to cover a distance of 4.5km over similar terrain?
- a 40 mins
 - b 60 mins
 - c 90 mins
 - d 120 mins

- 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 Walking around a hill without gaining or losing height is called:
- a Handrailing
 - b Aiming off
 - c Pacing
 - d Contouring

- 21 Which air mass starts off very cold with dry air but arrives in the UK warm and wet:
- a Returning polar maritime
 - b Tropical continental
 - c Arctic maritime
 - d Polar maritime

- 22 When a cold air mass catches up with another cold air mass, thereby undercutting a comparatively warm air mass and pushing it upwards off the Earth's surface, the weather system is called:
- a A cold stream
 - b An occluded front
 - c A ridge of high pressure
 - d A non-frontal depression

- 23 An anticyclone is:
- a An area of high pressure enclosed by isobars
 - b A warm front which has caught up with a cold front
 - c An area of low pressure enclosed by isobars
 - d A cold front which has caught up with a warm front

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

- 25 Which of these would be found only at high level?
- a Stratocumulus
 - b Altocumulus
 - c Altostratus
 - d Cirrostratus