



Headquarters Air Cadets Examination

Leading Cadet
Basic Navigation
Generated 23-Aug-99

Serial: 61

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 _____

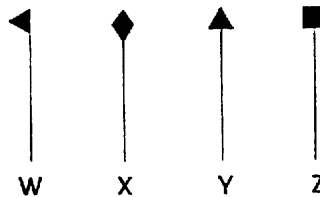
Squadron/Unit _____

Wing _____

- 1 When navigating with a map, which north must you always use for reference?
- a True north
b Magnetic north
c Grid north
d Actual north
-
- 2 Orientating a map can also be called:
- a Setting a map
b Sighting a map
c Ranging a map
d Organising a map
-
- 3 Why is it important to set a map before using it in the field?
- a So that names printed on the map may be read more easily
b So that a compass can be used to follow the required direction over the ground
c So that features on the ground seen by the observer can be easily related to features on the map
d So that distances can be measured more easily
-
- 4 Which star group can be used to find the Pole Star:
- a The Great Bear
b Orion's Belt
c The Milky Way
d The Crab Nebula
-
- 5 A freely-suspended magnetic needle will point:
- a To grid north
b To the geographical north pole
c To the magnetic north pole
d Straight down to the ground

- 6 Which north changes its position slightly over the years?
- a True north
b Grid north
c Magnetic north
d Geographic north

- 7 Which of these symbols represents grid north?
- a Y
b X
c Z
d W



- 8 What is the angular difference between true north and magnetic north called?
- a Compass error
b Magnetic deviation
c Magnetic variation
d Magnetic differential

- 9 The angular difference between grid north and magnetic north is:
- a Magnetic variation
b Grid magnetic angle
c Grid variation
d Magnetic difference angle

- 10 Where on an M726 OS map is the information on magnetic variation located:
- a At the top of the map
b On the extreme left of the map
c On the back of the map
d At the bottom of the map
-
- 11 What is the purpose of liquid in the capsule of a compass?
- a Increases the needle's sensitivity
b Allows the needle to be seen more clearly
c Allows the needle to settle down quickly
d Prevents the needle from moving
-
- 12 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 Aluminium tent pole
d A plastic water bottle
-
- 13 The final step in setting a map with a compass is to:
- a Turn the map only until it is pointing north
b Turn the map and compass together until the needle is pointing south
c Turn the compass only until it is pointing at north
d Turn the map and compass together until the needle is inside the orientating arrow

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

15 A grid bearing from a M726 series OS map on which the magnetic variation is westerly, can be converted to a magnetic bearing by:

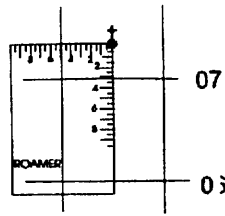
- a Adding the angular difference between magnetic north and grid north
- b Subtracting the angular difference between grid north and true north
- c Adding the angular difference between grid north and true north
- d Subtracting the angular difference between magnetic north and grid north

16 When walking on a bearing in good visibility, the best technique is to:

- a Follow your compass and ignore the countryside
- b Select a distant feature that is along your intended direction of travel
- c Select an object 5 metres in front and walk to it
- d Send a team member out 50 metres and walk to there

17 The 6 figure GR shown would be:

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



18 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 348°
- c 347°
- d 345°

19 Whilst walking over reasonably flat ground a cadet takes 1hr to cover 3km. How long will it take him to walk 500m at the same speed?

- a 30 mins
- b 10 mins
- c 40 mins
- d 60 mins

20 Contouring means:

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

21 Which air mass originates in Siberia and brings to the UK warm weather in summer and cold weather in winter?

- a Polar continental
- b Arctic maritime
- c Tropical maritime
- d Tropical continental

22 An occluded front is represented by:

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

23 An anticyclone is:

- a An area between two areas of high pressure
- b An area of low pressure
- c A depression
- d An area of high pressure

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

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

25 Stratus is what type of cloud:

- a Hair-like
- b Lumpy or heaped
- c Thread-like
- d Featureless layer