



Headquarters Air Cadets Examination

Leading Cadet
32/2 Basic Navigation
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Serial: 570

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

2 Setting a map is also known as:

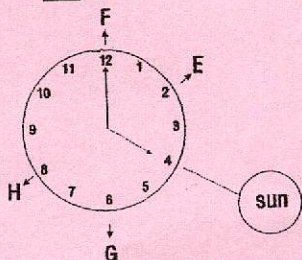
- a Clocking
- b Orientating
- c Mapping
- d Turning

3 Why is it important to set a map before using it in the field?

- a So that a compass can be used to follow the required direction over the ground
- b So that distances can be measured more easily
- c So that features on the ground seen by the observer can be easily related to features on the map
- d So that names printed on the map may be read more easily

4 If you are on the Isle of Wight on 21 November at 4 pm (GMT), and you hold your watch flat with its hour hand pointing to the Sun - as in the diagram - which arrow (E, F, G, or H) points to the north?

- a F
- b G
- c H
- d E



5 A freely-suspended magnetic needle will point:

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

6 The Earth's magnetic pole is located:

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

7 What does this symbol represent?

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



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

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

9 Where on a M726 OS map is the Technical Information giving details of magnetic variation located:

- a At the top of the map
- b At the bottom right side of the map
- c On the back of the map
- d On the extreme left of the map

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

12 When using a compass to take a bearing on a distant object you would first of all:

- a Turn the capsule so that the orientating arrow points at the object
- b Point the direction of travel arrow at the object
- c Align the red compass needle to point at the object
- d Turn the capsule to subtract the grid magnetic angle

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

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

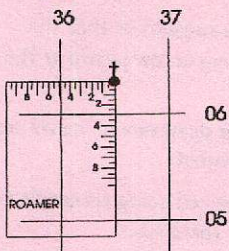
- a Send a team member out 50 metres and walk to there
- b Follow your compass and ignore the countryside
- c Select an object 5 metres in front and walk to it
- d Select a distant feature that is along your intended direction of travel

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

16 The 6 figure GR shown would be:

- a 077 375
- b 375 077
- c 063 365
- d 365 063



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 348 degrees
- d 345 degrees

18 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 10 mins
- b 30 mins
- c 60 mins
- d 40 mins

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

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

20 An attack point would be:

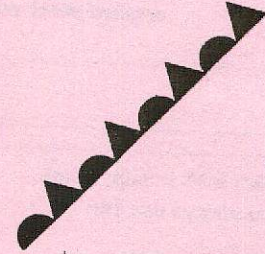
- a Any trig point
- b Any prominent feature close to your objective
- c Any prominent feature that can be easily identified
- d The summit of any hill

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 Tropical continental
- c Arctic maritime
- d Tropical maritime

22 The diagram shows:

- a Occluded front
- b Isobar
- c Warm front
- d Cold front



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

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

24 Upper winds are generally responsible for:

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

25 When alto is used as a prefix in a name of a type of cloud, that cloud may be found at:

- a Medium level
- b Low level
- c High level
- d Any level