



Headquarters Air Cadets Examination

Leading Cadet
32/2 Basic Navigation
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Serial: 781

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 What is the approximate difference between true north and grid north?

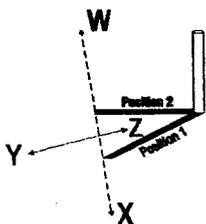
- a 3 degree
- b 4 degree
- c 2 degree
- d 1 degree

2 Turning a map so that identifiable features are in their relative position is called:

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

3 While on expedition in South Wales a cadet places a stick in the ground and watches the shadow move from position 1 to position 2. Which arrow points north:

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



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

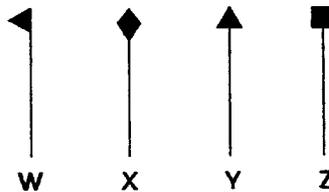
- a The surface is covered with lines of latitude and longitude
- b Its magnetic field
- c Its gravitational field
- d It rotates clockwise

5 Which north changes its position slightly over the years?

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

6 Which of these symbols represents grid north?

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



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

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

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

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

9 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

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

11 Which of these objects would cause deviation if held close to your compass

- a Paper
- b Plastic Spoon
- c Iron
- d Pencil

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 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

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

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

14 When using a compass to take a bearing on a distant object, you would first:

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

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

16 A Roamer would be used in finding:

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

17 What do you estimate as the average walking speed of a group on level ground?

- a 2 KPH
- b 6 KPH
- c 4 KPH
- d 8 KPH

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?

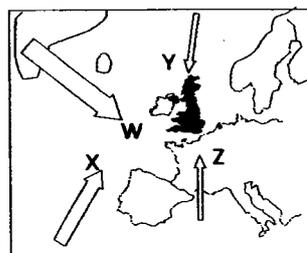
- a 10 mins
- b 30 mins
- c 60 mins
- d 40 mins

19 A cadet decides to follow a stream down from the hill-side because she knows that the stream runs close to her campsite. The cadet is using a navigational technique known as:

- a Aiming off
- b Contouring
- c Handrailing
- d Resection

20 Which air mass is called Polar Maritime?

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



21 An occluded front is represented by:

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

22 An area of low pressure is also known as:

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

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

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

24 Depressions move under the influence of:

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

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

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