NAVIGATION

1.An observer is located north of the plane of the ecliptic. Which statement is correct?

The Earth moves on an elliptical orbit around the sun and the rotational direction is counterclockwise

The Earth moves on a circular orbit around the sun and the rotational direction is clockwise

The Earth moves on an elliptical orbit around the sun and the rotational direction is clockwise

The Earth moves on a circular orbit around the sun and the rotational direction is counterclockwise

2. The distance between the Earth and the sun is approximately...

300000 km

162000 NM

150000000 km

150000000 NM

3. Which statement is correct with regard to the positional orientation of the polar axis of the Earth to the plane of the ecliptic (plane of the sun's movement in space)?

The polar axis of the Earth is parallel to the plane of the ecliptic

The angle between the polar axis of the Earth and the plane of the ecliptic is approximately 90°

The angle between the polar axis of the Earth and the plane of the ecliptic is approximately 23.5°

The angle between the polar axis of the Earth and the plane of the ecliptic is approximately 66.5°

4. The reason for the different seasons on Earth is...

the elliptical orbit of the Earth around the sun.

the variation of the solar radiation during the year.

the inclination of the polar axis to the plane of the ecliptic.

the variation of the Earth's orbital speed during the year.

5.The rotational axis of the Earth crosses the earth at the...

geographic North Pole and on the geographic South Pole.

magnetic north pole and on the magnetic south pole.

geographic North Pole and on the magnetic south pole.

magnetic north pole and on the geographic South Pole.

6. Which statement is correct with regard to the polar axis of the Earth?

The polar axis of the Earth crosses the magnetic south pole and the magnetic north pole and is perpendicular to the plane of the equator

The polar axis of the Earth crosses the geographic South Pole and the geographic North Pole and is at an angle of 23.5° to the plane of the equator

The polar axis of the Earth crosses the geographic South Pole and the geographic North Pole and is perpendicular to the plane of the equator

The polar axis of the Earth crosses the magnetic south pole and the magnetic north pole and is at an angle of 66.5° to the plane of the equator

7. Which geometrical form describes the shape of the Earth best for navigation systems?

Sphere of ecliptical shape

Ellipsoid

Perfect sphere

Flat plate

8. Which statement is correct?

A rhumb line is a great circle perpendicular to the equator

The center of a complete cycle of a rhumb line is always the Earth's center

A rhumb line has the shortest distance between two points on Earth

A rhumb line cuts each meridian at the same angle

9. Which of the following arcs does not have the Earth's center as its center?

Parallel of longitude

Small Cirle

Equator

Great Circle

10. The shortest distance between two points on Earth is represented by a part of...

a parallel of latitude.

a small circle.

a great circle.

a rhumb line.

11. The equator is a...

parallel of latitude.

semi circle.

parallel of longitude.

small circle.

12. Where are the two polar circles?

23.5° north and south of the poles

20.5° south of the poles

At a latitude of 20.5°S and 20.5°N

23.5° north and south of the equator

13. Which climate zones are divided by the polar circle?

Polar and subtropical

Temperate and subtropical

Subtropical and tropical

Polar and temperate

14. What is the great circle distance between two parallels of latitude when the difference in between is exactly one degree of latitude?

1 NM

30 NM

60 NM

60 km

15. What is the distance between the two parallels of longitude 150°E and 151°E on the equator?

60 SM

111 NM

60 km

111 km

16. What is the great circle distance between two points A and B on the equator when the difference between the two associated meridians is exactly one degree of longitude?

400 NM

60 NM

216 NM

120 NM

17. Assume two arbitrary points A and B on the same parallel of latitude, but not on the equator. Point A is located on 010°E and point B on 020°E. The rumb line distance between A and B is always...

less than 300 NM.

more than 600 NM.

less than 600 NM.

more than 300 NM.

18. An aircraft is situated on 60°N 040°W.The rhumb line distance to the position 60°N 000°W on the Greenwich meridian equals...

600 NM.

1200 km.

1200 NM.

2400 km.

19. What is the difference in time when the sun moves 20° of longitude?

0:20 h

1:00 h

0:40 h

1:20 h

20. The sun moves 10° of longitude. What is the difference in time?

0.66 h

0.4 h

1 h

0.33 h

21. 1600 Central European Summer Time (CEST) equals...

1600 UTC.

1400 UTC.

1500 UTC.

1700 UTC.

22. UTC is...

local mean time at a specific point on Earth.

a local time in Central Europe.

an obligatory time used in aviation.

a zonal time.

23. An aircraft is located at a position east of the 180 °W meridian heading towards a position west of this meridian. Which statement is correct?

The aircraft passes the dateline and the date decreases by one day

The aircraft passes the dateline and the date increases by two days

The aircraft passes the dateline and the date increases by one day

The aircraft passes the dateline and the date decreases by two days

24. The term 'sunrise' is defined as...

the point in time when an observer for the first time on the particular day is able to see half of the sun disk.

the point in time when an observer for the first time on the particular day is able to see the full sun disk.

the point in time when an observer for the first time on the particular day is able to see the centre of the sun disk.

the point in time when an observer for the first time on the particular day is able to see the upper edge of the sun disk.

25. Given: TC: 032°; WCA: +11°; DEV: 001° W; CH: 049° What are TH, VAR und MH?

TH: 048°. VAR: 005° W. MH: 043°.

TH: 043°. VAR: 005° W. MH: 048°.

TH: 043°. VAR: 005° E. MH: 048°.

TH: 048°. VAR: 005° E. MH: 050°.

26. Which formula is correct to calculate the magnetic course (MC)?

MC = TC + VAR

MC = TC - VAR

MC = TH - VAR

MC = CC - DEV

27. Which formula is correct to calculate the magnetic heading (MH)?

MH = TH + VAR

MH = CH + DEV

MH = MC - WCA

MH = TC - VAR

28. What is the value on the compass card of the direction south-southeast?

157.5°

180°

135°

155.7°

29. The angle between the true course and the true heading is called...

deviation.

inclination.

variation.

WCA.

30. The term ‚magnetic course' (MC) is defined as...

the angle between magnetic north and an arbitrary direction.

the direction from an arbitrary point on Earth to the magnetic north pole.

the direction from an arbitrary point on Earth to the geographic North Pole.

the angle between true north and an arbitrary direction.

31. The term 'True Course' (TC) is defined as...

the measurement for any direction on Earth in reference to true north (TN), defined as the angle between true north and that direction. "

the direction from an arbitrary point on Earth to the geographic North Pole.

the direction from an arbitrary point on Earth to the magnetic north pole.

the measurement for any direction on Earth in reference to magnetic north (MN), defined as the angle between magnetic north and that direction.

32. What is the correct formula to calculate the magnetic course (MC)?

MC = MH - WCA

MC = CC - DEV

MC = TC + VAR

MC = CH + DEV

33. Where does the inclination reach its lowest value?

At the geographic põles

At the geographic equator

At the magnetic poles

At the magnetic equator

34. The angle between compass north and magnetic north is called...

variation.

inclination.

WCA.

deviation.

35. The term 'compass north' (CN) is defined as...

the angle between the aircraft heading and magnetic north.

the most northerly part of the magnetic compass in the aircraft, where the reading takes place.

the direction from an arbitrary point on Earth to the geographical North Pole.

the reading of the northern direction on the magnetic compass on board the aircraft.

36. Which parameter influences the Deviation (DEV)?

Heading

Isogonic lines

Inclination

Variation

37. Which are the official basic units for distances used in aeronautical navigation and their abbreviations?

Land miles (SM), sea miles (NM)

Yards (yd), meters (m)

Feet (ft), inches (in)

Nautical miles (NM), kilometers (km)

38. 3500 m equal...

1.89 NM.

35 NM.

3.5 NM.

6.48 NM.

39. The magnetic north pole is located...

in the mountains of Alaska.

in the arctis of Canada.

east of Norway.

south of Newfoundland.

40. Which statement is correct with regard to the term 'Variation' (VAR) and its value?

Its value is constant everywhere on Earth

Its value is a direct function of the longitude

Its value depends on the magnetic field of the aircraft

Its value depends, among others, on the location

41. Which statement is correct with regard to the term 'Deviation' (DEV) and its value?

Deviation is a direct function of longitude

Deviation depends on the magnetic field of the Aircraft

Deviation depends, among others, on the location

Deviation has a constant value everywhere on Earth

42. Which are the properties of a Mercator chart?

The chart is an equal-area projection, great circles are depicted as straight lines, and the chart is true to scale

The chart convergency is 90°, the chart is an equal-area projection, and rhumb lines are depicted as straight lines

The chart is true to scale, the chart is conformal, and great circles are depicted as straight lines

The chart convergency is 0°, the chart is conformal, and rhumb lines are depicted as straight lines

43. Which are the properties of a conformal projection chart?

Great circles must be straight lines, the angle between longitudes and latitudes on the chart is always 90° and the scale on an arbitrary point must be independent of direction

The scale on an arbitrary point must be independent of direction and great circles must be straight lines out of the centre of the chart

The scale on an arbitrary point must be independent of direction and the angle between longitudes and latitudes on the chart is not necessarily equal to 90°

The scale on an arbitrary point must be independent of direction and the angle between longitudes and latitudes on the chart is always 90°

44. Which are the properties of a Lambert conformal chart?

Rhumb lines are depicted as straight lines and the chart is conformal

The chart is conformal and nearly true to scale

Great circles are depicted as straight lines and the chart is an equal-area projection

The chart is conformal and an equal-area projection

45. Which lines have to be used by the pilot to determine the aircraft's position?

Magnetic bearings (QDR)

Magnetic headings (MH)

Relative bearings (RB)

True bearings (QTE)

46. The distance between two airports is 220 NM. On an aeronautical navigation chart the pilot measures 40.744 cm for this distance. The chart scale is...

1 : 500000.

1 : 2000000.

1 : 250000.

1 : 1000000.

47. For a short flight from A to B the pilot extracts the following information from an aeronautical chart True course: 245° Magnetic variation: 7° W The magnetic course (MC) equals...

238°.

245°.

007°.

252°.

48. An aircraft is flying with an indicated airspeed (IAS) of 150 kt at 8000 ft MSL. According to the rule of thumb, the true airspeed (TAS) equals...

142 kt.

150 kt.

208 kt.

174 kt.

49. An aeroplane travels 50 NM in 42 minutes. The ground speed (GS) equals...

71 km/h.

132 km/h.

80 km/h.

74 km/h.

50. What is the required flight time for a distance of 236 NM with a ground speed of 134 kt?

1:23 h

1:46 h

1:57 h

1:18 h

51. An aircraft is flying with a true airspeed (TAS) of 180 kt and a headwind component of 25 kt for 2 hours and 25 minutes. The distance flown equals...

202 NM.

435 NM.

693 NM.

375 NM.

52. A climb rate of 900 ft/min equals...

14.8 m/sec.

4.5 m/sec.

5.4 m/sec.

6.7 m/sec.

53. Given: Calibrated airspeed (CAS): 155 kt. Flight level (FL) 80. Outside air temperature (OAT): -15° C. The true airspeed (TAS) equals...

164 kts.

119 kts.

148 kts.

170 kts.

54. An aircraft is flying at a pressure altitude of 7000 feet with an outside air temperature of +21° C. The QNH altitude is 6500 ft. The true altitude equals...

6250 ft

6500 ft.

7000 ft

6750 ft.

55. An aircraft is following a true heading (TH) of 250° at a ground speed (GS) of 120 kt. The wind vector is 010°/30 kt. The true course (TC) equals...

263°.

237°.

257°.

243°.

56. Given: True course: 255°. TAS: 100 kt. Wind: 200°/10 kt. The true heading equals...

245°.

250°.

275°.

265°.

57. An aircraft is following a true course (TC) of 040° at a constant true airspeed (TAS) of 180 kt. The wind vector is 350°/30 kt. The groundspeed (GS) equals...

172 kt.

168 kt.

159 kt.

155 kt.

58. An aircraft is following a true course (TC) of 140° at a ground speed (GS) of 120 kt. The true airspeed (TAS) is 150 kt, the true heading (TH) is 150°. The wind vector (W/WS) equals...

200° / 20 kts.

183° / 38 kts.

220° / 30 kts.

225° / 16 kts.

59. Given: True course: 120°. TAS: 120 kt. Wind: 150°/12 kt. The WCA equals..."

6° to the right.

3° to the left.

6° to the left.

3° to the right.

60. A well-known ground feature along the flight track is passed 5 minutes ahead of the planned flight schedule. The expected ground speed was 120 kts and the distance of the previously flown leg was 30 NM. The wind component (WC) equals...

25 kts tailwind.

20 kts tailwind.

60 kts tailwind.

18 kts tailwind.

61. The distance from 'A' to 'B' measures 120 NM. At a distance of 55 NM from 'A' the pilot realizes a deviation of 7 NM to the right. What approximate course change must be made to reach 'B' directly?

8° left

15° left

6° left

14° left

62. An aeroplane has a heading of 090°. The distance which has to be flown is 90 NM. After 45 NM the aeroplane is 4.5 NM north of the planned flight path. What is the corrected heading to reach the arrival aerodrome directly?

6° to the right

9° to the right

12° to the right

18° to the right

63. What is the meaning of the 1:60 rule?

60 NM lateral offset at 1° drift after 1 NM

6 NM lateral offset at 1° drift after 10 NM

1 NM lateral offset at 1° drift after 60 NM

10 NM lateral offset at 1° drift after 60 NM

64. The approximate propagation speed of electromagnetic waves is...

300000 NM/s.

300000 km/s.

300000 m/s.

300000 ft/s.

65. Which answer states kinds of modulation?

Phase modulation, hertz modulation, amplitude modulation

Cycle modulation, phase modulation, frequency modulation

Frequency modulation, cycle modulation, hertz modulation

Amplitude modulation, frequency modulation, phase modulation

66. Radio waves within the VHF range (e.g. VOR) travel as...

sky wave.

quasi-optical wave.

sky wave and ground / surface wave.

ground / surface wave.

67. A VHF direction finder (VDF) can determine...

magnetic bearings.

true courses.

approach speeds.

slant ranges.

68. Given: QDM: 138° VAR: 10° E The QUJ equals...

328°.

318°.

148°.

168°.

69. The earth rotates...

with the sun from east to west.

around its axis from east to west.

around the so-called equinox points.

around its axis from west to east.

70. The imaginary axis of the earth passes through...

the magnetic north pole and the magnetic south pole.

the geographical north pole and the magnetic north pole.

the equator.

the geographical north pole and the geographical south pole.

71. The term QDR means...

true bearing from the station to the aircraft.

true bearing from the aircraft to the station.

magnetic bearing from the station to the aircraft.

magnetic bearing from the aircraft to the station.

72. The pilot receives a QDM of 035° from the VDF ground station. Where is the aircraft located in relation to the ground station?

Southwest

Northwest

Southeast

Northeast

73. The VDF range depends on...

the aircraft's speed.

the aircraft's altitude.

the range of the ground / surface wave.

the condition of the ionosphere.

74. The accuracy of a VHF direction finder (VDF) could be affected by...

propagation errors within the atmosphere.

coastline effect.

propagation over irregular surfaces.

fading.

75. Which equipment is needed on board of an aircraft to receive signals from a non-directional beacon (NDB)?

Course deviation indicator (CDI)

Secondary surveillance radar (SSR)

Horizontal situation indicator (HSI)

Automatic direction finder (ADF)

76. A pilot wants to approach an NDB on QDM 090°. The aircraft flies for about 5 minutes with a magnetic heading (MH) of 095° and the RBI indication of 355°. After 6 minutes the RBI indicates 358°.

Which statement is correct?

The crosswind component increased; the pilot has to increase the MH

The crosswind component decreased; the pilot has to increase the MH

The crosswind component decreased; the pilot has to decrease the MH

The crosswind component increased; the pilot has to decrease the MH

77. What is the difference between a locator beacon and a non-directional beacon (NDB)?

Locator beacons have a lower range than NDBs

Locator beacons transmit more precisely

Locator beacons transmit on request only

Locator beacons have a higher range than NDBs

78. The shoreline effect is greatest with radio wave propagation...

at an acute angle to the coast; aircraft below 6000 ft.

at a right angle to the coast; aircraft below 6000 ft.

at an acute angle to the coast; aircraft above 6000 ft.

at a right angle to the coast; aircraft above 6000 ft.

79. Fading occurs mainly...

in the late afternoon.

during the night.

at midday.

in the daytime.

80. The progress of an electromagnetic oscillation can be described by the...

frequency angle.

phase angle.

wave angle.

amplitude angle.

81. A VOR radial corresponds to the...

QTE.

QDM.

QUJ.

QDR.

82. Full deflection of the course deviation indicator (CDI) means that the aircraft is located at least...

10 NM beside the selected course.

10° beside the selected course.

2 NM beside the selected course.

2° beside the selected course.

83. In what frequency band do DMEs operate?

UHF

SHF

HF

VHF

84. The distance measuring equipment (DME) determines the distance based on the principle of...

phase comparison.

Doppler.

time measurement.

laser measurement.

85. The DME reading is a...

ground distance.

air range.

slant range.

radial distance.

86. The maximum number of aircraft obtaining a distance from distance measuring equipment (DME) at the same time is approximately...

50.

70.

100.

150.

87. The DME distance error increases...

when circling around the DME station.

when descending.

when approaching the DME station.

when departing the DME station.

88. Which instantaneous information can be obtained from ground radar equipment?

Airspeed (TAS) and distance

Distance and direction

Direction and airspeed (TAS)

Airspeed (TAS) and heading

89. The on-board equipment of the secondary surveillance radar (SSR) is called...

interrogator.

course indicator.

decoder.

transponder.

90. Which is a difference between primary and secondary radar?

The pulses of a primary radar are variably amplitude-modulated, the pulses of a secondary radar are statically pulse-modulated.

The pulses of a primary radar are variably pulse-modulated, the pulses of a secondary radar are statically amplitude-modulated.

The pulses of a primary radar are reflected by the aircraft's surface, the pulses of a secondary radar system are answered by a transponder

The primary radar is displayed on a computer screen, the secondary radar on a radar strip

91. The transponder code in case of an emergency situation is...

7700.

7600.

7000.

7500.

92. Which altitude is transmitted by the transponder in mode C?

Pressure altitude

QNH altitude

Radio altitude

QFE altitude

93. How many active satellites are necessary for the space segment of NAVSTAR/GPS?

20

24

26

22

94. The Arctic circle and Antarctic circle are located...

at 23.5° N and S

23.5° away from both terrestrial poles

23.5° south of both terrestrial poles.

23.5° away from the equator.

95. Any meridian intersects the equator with an angle of...

60°.

90°.

45°.

180°.

96. Which of the circular arcs does not have its centre in the centre of the earth?

Meridian

Small circle

Great circle

Equator

97. The difference in latitude of 10'...

can only exactly be determined under consideration of the departure location.

is 60 NM.

is 10 NM.

is determined only according to the scale of a chart.

98.The distance between the meridians 010° W and 011° W at the equator equals...

111 km.

111 NM.

60 km.

60 ML (statute miles).

99. What is the time difference when the sun has moved by 5 degrees of longitude from a certain observation point?

20 min

4 min

30 min

1 h

100. The "Universal Time Coordinated" (UTC) is...

zone time.

the time to be used in aviation.

Central European Time.

always local time.

101. When making a calculation from true course to magnetic course, a variation is...

always subtracted.

always added.

added when variation is "east".

added when variation is positive.

102. Which units are used in aviation navigation for distances, short distances and vertical speeds?

km, NM, m/s

NM, km, ft/min NM,

NM, ft/min

NM, m, ft/min

103. Where is the vertical deflection of the compass needle largest?

Overhead the magnetic poles

At mean latitudes

Overhead the geographic poles

At the magnetic equator

104. Where is the magnetic inclination 0°?

At the magnetic poles

Overhead the geographic poles

At the magnetic equator

At the geographic equator

105. When using a direct reading magnetic compass to make a turn onto a southerly heading, the turn should be stopped...

15° before the desired heading when making a standard rate turn.

30° before the desired heading when making a standard rate turn.

before the desired heading.

after the desired heading.

106. Possible values for magnetic variations are...

angles between 0° and 180° E/W.

angles between 0° and 360° E/W.

angles between 23.5° E and 23.5° W.

angles between 90° E and 90° W.

107. Lines with a constant variation are called...

contour lines.

isobars.

isogonic lines.

isoclines.

108. The adjustment of the directional gyro is carried out correctly when...

adjusted prior to starting the engine, since the adjustment cannot be made exactly due to the vibrations of the running engine.

adjusted prior to take-off in take-off position, using the known magnetic direction of the runway.

it is adjusted according to the variation in the Aeronautical Information Publication (AIP).

adjusted shortly after take-off, using the magnetic compass.

109. How does the indication of the compass change during a flight on west courses when changing from level flight to an accelerated descent? The indicaton...

becomes larger.

does not change.

can become larger or smaller.

becomes smaller.

110. The "acceleration error" occurs during flight...

on north and south courses.

only with south courses.

on east and west courses.

only with north courses.

111. Which magnetic influences in the aircraft impair the indication of the magnetic compass?

None if the deviation is 0°

None if the magnetic compass is compensated properly and the deviation is 0°

None, because the aircraft acts like a Faraday cage

Electrical devices, metal parts (particularly iron), ignition system

112. In a chart projection the latitudinal parallels are straight lines and the longitundinal lines run parallel at right angle. This is a...

azimuthal projection.

conical projection.

cylindrical projection.

conformal conical projection (LCC).

113. Which answer explains the abbreviation "HJ"?

Sunrise until sunset

Variable time of operation

Hours per day

Amount beyond the average of a year

114. A magnetic compass shows the direction in relation to

compass heading.

magnetic north.

compass north.

geographical north.

115. Which answer explains the term "QDM"?

Magnetic bearing from the station to the aircraft

True bearing from the station to the aircraft

True heading to the station

Magnetic heading to the station

116. Which unit of measurement is used for horizontal speeds in navigation?

kt or km/h

MPH or m/s

m/s or NM/h

NM, km/h or ft/min

117. The wind speed of 10 m/s corresponds to approximately...

30 km/h.

20 kt.

30 MPH.

40 km/h.

118. The rate of climb of 500 ft/min corresponds to...

25 m/s.

3.5 m/s.

2.5 m/s.

5.0 m/s.

119. At the standard parallels (Lambert conformal chart) the projection is...

equidistant, but not true to scale.

equidistant and true to convergency.

almost equidistant in latitude and true to scale.

equidistant and true to scale.

120. The aeronautical chart ICAO 1:500.000 is a...

conformal cylinder projection with two standard parallels.

conformal conic projection with an equidistant circle of latitude.

combination of conformal conic and cylindrical projection.

conformal conic projection with two distinct, equidistant circles of latitude.

121. When is an aeronautical chart called "conformal"?

When a straight course line drawn across an ICAO chart has the same intersection angle with all meridians along that track

When using a cylindrical projection

When an angle depicted on the chart is the same as on earth's surface at the same position

When all longitudes run parallel to each other and intersect the parallels at a right angles

122. Which answer states requirements for aeronautical charts?

It must be laminated and prefolded

According to the requirements of air traffic control

Up-to-dateness, usefulness and clarity

Up-to-dateness, usefulness, clarity, and according to the requirements of air traffic control

123. The QTE could be used...

to identify the present position.

for tracking towards a station (tracking inbound).

for tracking away from a station (tracking outbound).

to determine the position on the aeronautical chart.

124. The highest spot elevation or the highest obstacle in most aeronautical charts is marked by...

a black triangle with an information of the elevation.

a specially coloured marking of the symbol for the terrain elevations.

the associated elevation information in a framed box.

a point with an information of the elevation in ft.

125. Isogonic lines are represented in the aeronautical chart ICAO 1:500.000...

by black, dashed lines.

by red, dashed lines.

by red, solid lines.

by blue, dashed lines.

126. On a chart with a scale of 1:1.000.000, 30 cm represent...

81 NM.

40.5 NM.

16.2 NM.

162 NM.

127. On a TH of 270° the wind correction angle (WCA) is -10°. The true heading (TH) for the return course is...

090°.

080°.

100°.

110°.

128.The wind angle (WA) describes the angle between...

TC and the wind direction.

TC and the wind vector.

CH and the wind direction.

MC and the wind direction.

129. The relative wind angle (RWA) is the angle between the direction the wind is coming from and the...

heading.

drift angle.

course.

track.

130. The navigation procedure by which the estimated position of an aircraft is calculated from air speed, direction, time and wind influence is called...

astro navigation.

visual navigation.

direction finding procedure.

dead reckoning.

131. Which mass of fuel is needed for a flight time of 2 h45 min and an average consumption of 36 l/h (specific weight 0.72)?

99 kg

71 kg

167 kg

120 kg

132. Given a heading of 070°T and a track of 061°T, a TAS of 120 kt and a GS of 118 kt. The wind direction and velocity are...

150/19 kt.

310/19 kt.

130/19 kt.

330/19 kt.

133.Given a compass heading of 080°C, a compass deviation of 4° E, a local magnetic variation of 5° W. The true heading is..."

081.

084.

075.

079.

134. The difference between the groundspeed (GS) and the true airspeed (TAS) is...

greater zero even with only crosswind

the compressibility of the air.

the wind correction angle (WCA).

the outside air temperature.

135. The drift angle (DA) is the angle between the...

direction of the ground vector and the TC.

TH and MH.

MH and CH.

longitudinal axis of an aircraft and its track (TT).

136. Which navigation procedures are mainly used by private pilots during VFR flights?

Visual navigation, dead reckoning and Doppler navigation

Astro navigation, radio navigation und barometric navigation

Visual navigation, radio navigation and inertial navigation

Visual navigation, dead reckoning and radio navigation

137. What is the purpose of "interception lines" in visual navigation?

They are used as easily recognizable guidance upon a possible loss of orientation

They are always leading to the destination

They help continuing the flight when flight visibility drops below VFR minima

They are of no practical use because they extend the flight time

138. With a TAS of 100 kt you are crossing point A on TH 040° at 1425 UTC. At 1501 UTC you are on the course line 60 NM away from point A. You can conclude that...

the GS is less than the TAS.

the GS is larger than the TAS.

the GS is the same as the TAS.

the headwind component increases.

139. An aircraft's demonstrated cross wind limit for both T/O and landing is 16 kt. If the prevailing surface wind is 22 kt, what is the maximum acceptable angle of surface wind to runway for T/O and landing?

55°

60°

50°

45°

140. A pilot passes position A with a TAS of 110 kt at 1230 UTC. At 1242 UTC the pilot crosses the checkpoint B, 22 NM away from position A. This is possible because...

there is tailwind.

there is neither tailwind nor headwind.

there is headwind.

the headwind component calculated in the flight log did not change.

141. A direct route from A to B with checkpoint C lying in between is 84 NM (156 km). The pilot determines above checkpoint C, which is 35 NM (65 km) away from A, that the flying time up to now is 25 min. What is the amount of the estimated total flight time from A to B?

70 minutes

50 minutes

45 minutes

60 minutes

142. The safety height for the flight distance or part of it is...

500 ft above the highest obstacle and 5 NM to the left and right of the track rounded up to the next one hundred feet.

328 ft plus 30 ft above the highest landmark 5 NM to the left and right of the track.

generally 2000 ft AGL as far as possible according to the VFR requirements.

500 ft above the highest point or obstacle of the appropriate chart.

143. The number of oscillations of an electromagnetic wave per second is called...

wavelength.

impulse intervall.

frequency.

wave time.

144. QTE is the...

true heading from the aircraft to the station.

true bearing from the station to the aircraft.

magnetic bearing from the station to the aircraft.

magnetic heading from the aircraft to the station.

145. Radio waves may be subject to reflection, diffraction, absorption, dispersion and refraction at ionised layers in the atmosphere (the ionosphere). The main reason for this is...

the tilted position of the earth's axis.

the radiation energy of the moon.

the radiation of the sun.

the position of the stars.

146. The reception range of an automatic direction finding equipment (ADF) is...

190 MHz to 1750 MHz.

200 kHz to 526.5 kHz.

190 kHz to 1750 kHz.

200 kHz to 1650 kHz.

147. While approaching a VDF station, the QDM is getting larger. The pilot concludes that...

the wind is coming from the left.

the RBI is faulty.

the wind is coming from the right.

the aircraft approaches the cone of silence.

148. The pilot receives a QDM of 040° from a VDF station. The aircraft's position in relation to the station is...

north-west.

south-west.

south-east.

north-east.

149. The accuracy of a VDF station could be affected by...

propagation and site errors.

twilight effect.

scalloping errors.

quadrantal errors.

150. When the selector switch of the ADF is in the position ANT...

the identification is suppressed.

the system receives through the loop antenna.

no bearing is possible.

the signal of the bearing is strengthened.

151. The radio magnetic indicator (RMI) directly indicates...

QUJ.

QNH.

QDR.

QTE.

152. Locator beacons and enroute NDBs differ in...

the phase of modulation.

the type of modulation.

antenna construction.

coverage.

153. Non directional beacons (NDB) generally have a coverage of...

25 NM to 100 NM.

max. 40 NM.

above 120 NM.

at least 50 NM.

154. Radio propagation in the LF / MF band is subject to...

reflection effects in the mesosphere.

skip effect during daytime.

bank effect.

mountain and coastal effect.

155. The ADF can be influenced by...

thunderstorm, mountain and coastal effect.

inclination, declination and variation effect.

atmospheric and topographical effects, acceleration forces.

torque effect, shoreline effect and effect of acceleration.

156. A VOR radial is defined as...

a true bearing to the VOR.

a true bearing from the VOR.

a magnetic bearing from the VOR.

a magnetic bearing to the VOR.

157. A pilot intends to track on the 160 radial inbound to a VOR station. In order to operate the CDI in the correct sense the pilot sets the OBS to...

160.

225.

340.

330.

158. The coverage of a VHF omnidirectional radio range (VOR) is...

unlimited in higher altitudes.

the same at all altitudes.

limited due to the quasi-optical radio wave propagation in the VHF band.

dependent only upon the transmission power of the ground station.

159. The CDI needle is deflecting shortly before the VOR station is overflown. The reason is that the...

bearing is deflected through the inclination.

aircraft is getting closer to the cone of silence.

Coriolis effect gets stronger.

radio beam on the bottom of the fuselage interfers.

160. The distance measured by a DME is called...

slant range.

dia range.

pulse distance.

horizontal distance.

161. In order to keep the transponder ready for operation, the switch on the transponder must be switched to...

TST.

ON.

STBY.

ALT.

162. The instruction "squawk ident" means...

the IDENT button has to be pressed until the ground unit issues the clearance to stop pressing the button.

the IDENT switch should be turned to the "ON" position for at least 12 seconds.

the aircraft call sign has to be reported.

the IDENT button has to be pressed once.

163. The instruction "squawk standby" means...

air traffic control is terminated.

the mode "OFF" has to be switched.

the operating mode "STBY" has to be switched.

code 7000 is to be set on the transponder for VFR flights.

164. An altitude enquiry through the air traffic control unit by means of the transponder with "encoding altimeter" is always related to...

height above ground.

the density altitude.

altitude above MSL.

pressure altitude.

165. A GPS navigation database is valid for...

14 days after date of revision.

1 year after the date of issue.

28 days according to the text on the label.

6 months after the date of issue.

166. The accuracy of the GPS navigation can be monitored...

only above North America.

by a fifth satellite whose position is known.

through position enquiry to radar control.

through a correct set-up and by pressing the ACC button.

168. Which characteristics apply to the ,,Lambert conformal projection“?

there are substantial distortions towards the top

an almost equidistant, area accurate and orthomorphic projection

the chart is correct only at a standard degree of latitude

the rhumb line appears as a straight line

169. Quasi- optical waves travel…

along the surface of the earth

along the surface of the earth, but are absorbed by the sea

through the air and are influenced (e.g reflected) by the ionosphere

through the air directly from the transmitter to the receiver

170. Which answer explains the abbreviation „HJ“?

variable time of operation

sunrise until sunset

amount beyond the average of a year

hours of day

171. What is meant by the term „terrestrial navigation“?

orientation by ground celestial object during visual flight

orientation by ground features during visual flight

orientation by GPS during visual flight

orientation by instrument readings during visual flight

172. Assume calm wind and an aircraft descending from 9000 ft to 1500 ft. The rate of descent (ROD) equals 1200 ft/min. The elapsed time will be…

6 min

15 min

12 min

8 min