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Part-FCL Question Bank

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(Excerpt)

90 – Navigation (Austria)

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1 The rotational axis of the Earth runs through the... (1,00 P.)

- geographic North Pole and on the geographic South Pole.
- geographic North Pole and on the magnetic south pole.
- magnetic north pole and on the magnetic south pole.
- magnetic north pole and on the geographic South Pole.

2 Which statement is correct with regard to the polar axis of the Earth? (1,00 P.)

- 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
- 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 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 perpendicular to the plane of the equator

3 Which approximate, geometrical form describes the shape of the Earth best for navigation systems? (1,00 P.)

- Flat plate
- Ellipsoid
- Sphere of ecliptical shape
- Perfect sphere

4 The shortest distance between two points on Earth is represented by a part of... (1,00 P.)

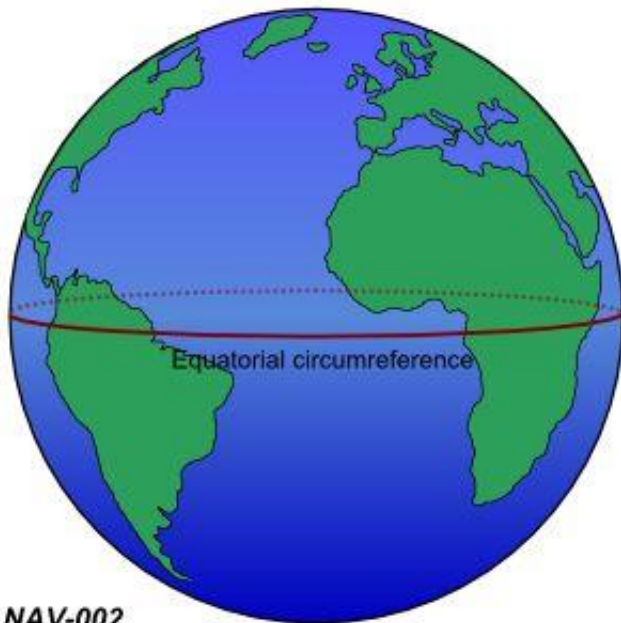
- a small circle.
- a parallel of latitude.
- a great circle.
- a rhumb line.

5 The circumference of the Earth at the equator is approximately...

See figure (NAV-002) (1,00 P.)

Siehe Anlage 1

- 10800 km.
- 12800 km.
- 21600 NM.
- 40000 NM.



6 What is the difference in latitude between A ($12^{\circ}53'30''\text{N}$) and B ($07^{\circ}34'30''\text{S}$)? (1,00 P.)

- $05,19^{\circ}$
- $05^{\circ}19'00''$
- $20,28^{\circ}$
- $20^{\circ}28'00''$

7 Where are the two polar circles? (1,00 P.)

- 20.5° south of the poles
- 23.5° north and south of the poles
- 23.5° north and south of the equator
- At a latitude of 20.5°S and 20.5°N

8 With Central European Summer Time (CEST) given as UTC+2, what UTC time corresponds to 1600 CEST? (1,00 P.)

- 1600 UTC.
- 1500 UTC.
- 1700 UTC.
- 1400 UTC.

9 On which position is the NDB Salzburg (SBG) located?**See annex (NAV-008) (1,00 P.)****Siehe Anlage 2**

- N47°49', E012°59'.
- N48°14', E012°59'.
- N47°58', E012°54'.
- N47°57', E013°00'.

10 On which position is the Aerodrome of Kirchdorf/Inn (EDNK) located?**See annex (NAV-008) (1,00 P.)****Siehe Anlage 2**

- N47°47', E013°00'.
- N47°49', E012°59'.
- N47°48', E012°53'.
- N48°14', E012°59'.

11 UTC is... (1,00 P.)

- local mean time at a specific point on Earth.
- a local time in Central Europe.
- an obligatory time used in aviation.
- a zonal time.

12 With Central European Time (CET) given as UTC+1, what UTC time corresponds to 1700 CET?**(1,00 P.)**

- 1800 UTC.
- 1700 UTC.
- 1500 UTC.
- 1600 UTC.

13 On which position is Airport Linz (LOWL) located?**See annex (NAV-008) (1,00 P.)****Siehe Anlage 2**

- N48°12', E013°20'.
- N48°10', E014°02'.
- N48°14', E014°11'.
- N48°13', E014°06'.

14 On which position is the DVOR/DME Linz (LNZ) located?**See annex (NAV-008) (1,00 P.)****Siehe Anlage 2**

- N48°10', E014°02'.
- N48°14', E014°11'.
- N48°12', E013°20'.
- N48°13', E014°06'.

15 On which position is the Airport of Ried-Kirchheim (LOLK) located?**See annex (NAV-008) (1,00 P.)****Siehe Anlage 2**

- N48°10', E014°02'.
- N48°12', E013°20'.
- N48°13', E014°06'.
- N48°14', E014°11'.

16 What is located at N48°00', E013°16'?**See Annex (NAV-008) (1,00 P.)****Siehe Anlage 2**

- A peak.
- A compulsory reporting point.
- A city.
- A village.

17 What is located at N47°57', E013°13'?**See annex (NAV-008) (1,00 P.)****Siehe Anlage 2**

- A city.
- A village.
- A peak.
- A compulsory reporting point.

18 What is located at N47°53', E013°38'?**See annex (NAV-008) (1,00 P.)****Siehe Anlage 2**

- A compulsory reporting point.
- A village.
- A peak.
- A city.

19 The term 'civil twilight' is defined as... (1,00 P.)

- the period of time before sunrise or after sunset where the midpoint of the sun disk is 6 degrees or less below the true horizon.
- the period of time before sunrise or after sunset where the midpoint of the sun disk is 12 degrees or less below the true horizon.
- the period of time before sunrise or after sunset where the midpoint of the sun disk is 6 degrees or less below the apparent horizon.
- the period of time before sunrise or after sunset where the midpoint of the sun disk is 12 degrees or less below the apparent horizon.

20 The angle between the true course and the true heading is called... (1,00 P.)

- WCA.
- inclination.
- variation.
- deviation.

21 The angle between the magnetic course and the true course is called... (1,00 P.)

- deviation.
- WCA.
- variation.
- inclination.

22 The term ,magnetic course' (MC) is defined as... (1,00 P.)

- the angle between magnetic north and the course line.
- 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 the course line.

23 The term 'True Course' (TC) is defined as... (1,00 P.)

- the angle between true north and the course line.
- the direction from an arbitrary point on Earth to the magnetic north pole.
- the angle between magnetic north and the course line.
- the direction from an arbitrary point on Earth to the geographic North Pole.

24 Where does the inclination reach its lowest value? (1,00 P.)

- At the geographic equator
- At the magnetic equator
- At the magnetic poles
- At the geographic poles

25 The angle between compass north and magnetic north is called... (1,00 P.)

- variation.
- WCA.
- inclination.
- deviation.

26 Which direction corresponds to 'compass north' (CN)? (1,00 P.)

- The direction to which the direct reading compass aligns due to earth's and aircraft's magnetic fields
- 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 angle between the aircraft heading and magnetic north

- 27 The term 'isogonal' or 'isogonic line' is defined as a line on an aeronautical chart, connecting all points with the same value of... (1,00 P.)**
- deviation.
 - heading.
 - inclination.
 - variation.
- 28 The term 'agonic line' is defined as a line on Earth or an aeronautical chart, connecting all points with the... (1,00 P.)**
- variation of 0°.
 - heading of 0°.
 - deviation of 0°.
 - inclination of 0°.
- 29 Which are the official basic units for horizontal distances used in aeronautical navigation and their abbreviations? (1,00 P.)**
- Yards (yd), meters (m)
 - feet (ft), inches (in)

 - Land miles (SM), sea miles (NM)
 - Nautical miles (NM), kilometers (km)
- 30 1000 ft equal... (1,00 P.)**
- 30 m.
 - 30 km.
 - 300 m.
 - 3000 m.
- 31 5500 m equal... (1,00 P.)**
- 30000 ft.
 - 7500 ft.
 - 18000 ft.
 - 10000 ft.
- 32 What could be a reason for changing the runway indicators at aerodromes (e.g. from runway 06 to runway 07)? (1,00 P.)**
- The magnetic variation of the runway location has changed
 - The true direction of the runway alignment has changed
 - The direction of the approach path has changed
 - The magnetic deviation of the runway location has changed

33 Electronic devices on board of an aeroplane have influence on the... (1,00 P.)

- direct reading compass.
- turn coordinator.
- airspeed indicator.
- artificial horizon.

34 Which are the properties of a Mercator chart? (1,00 P.)

- The scale is constant, great circles are depicted as straight lines, rhumb lines are depicted as curved lines
- The scales increases with latitude, great circles are depicted as curved lines, rhumb lines are depicted as straight lines
- The scales increases with latitude, great circles are depicted as straight lines, rhumb lines are depicted as curved lines
- The scale is constant, great circles are depicted as curved lines, rhumb lines are depicted as straight lines

35 How are rhumb lines and great circles depicted on a direct Mercator chart? (1,00 P.)

- Rhumb lines: curved lines
Great circles: straight lines
- Rhumb lines: straight lines
Great circles: curved lines
- Rhumb lines: curved lines
Great circles: curved lines
- Rhumb lines: straight lines
Great circles: straight lines

36 Which are the properties of a Lambert conformal chart? (1,00 P.)

- Great circles are depicted as straight lines and the chart is an equal-area projection
- Rhumb lines are depicted as straight lines and the chart is conformal
- The chart is conformal and nearly true to scale
- The chart is conformal and an equal-area projection

37 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... (1,00 P.)

- 252°.
- 238°.
- 245°.
- 007°.

- 38 Given:**
True course from A to B: 250°.
Ground distance: 210 NM.
TAS: 130 kt.
Headwind component: 15 kt.
Estimated time of departure (ETD): 0915 UTC.

The estimated time of arrival (ETA) is... (2,00 P.)

- 1115 UTC.
- 1105 UTC.
- 1052 UTC.
- 1005 UTC.

- 39 Given:**
True course from A to B: 283°.
Ground distance: 75 NM.
TAS: 105 kt.
Headwind component: 12 kt.
Estimated time of departure (ETD): 1242 UTC.

The estimated time of arrival (ETA) is... (1,00 P.)

- 1330 UTC
- 1320 UTC

- 1356 UTC
- 1430 UTC

- 40 Given:**
True course from A to B: 352°.
Ground distance: 100 NM.
GS: 107 kt.
Estimated time of departure (ETD): 0933 UTC.

The estimated time of arrival (ETA) is...

(1,00 P.)

- 1029 UTC.
- 1146 UTC.
- 1129 UTC.
- 1045 UTC.

41 An aircraft travels 100 km in 56 minutes.

The ground speed (GS) equals...

(1,00 P.)

- 93 kt.
- 198 kt.
- 107 km/h.
- 58 km/h.

42 What is the required flight time for a distance of 236 NM with a ground speed of 134 kt? (1,00 P.)

- 0:34 h
- 0:46 h
- 1:34 h
- 1:46 h

43 An aircraft is flying with a true airspeed (TAS) of 120 kt and experiences 35 kt tailwind.

How much time is needed for a distance of 185 NM?

(1,00 P.)

- 1 h 32 min
- 2 h 11 min
- 0 h 50 min
- 1 h 12 min

44 On what parallel of latitude is the DVOR/DME Salzburg located?

See annex (NAV-008) (1,00 P.)

Siehe Anlage 2

- 48°N.
- 50°N.
- 13°N.
- 48°S.

45 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... (1,00 P.)

- 435 NM.
- 375 NM.
- 693 NM.
- 202 NM.

46 The true course from Ried-Kirchheim (LOLK) to Scharnstein (LOLC) equals:

See annex (NAV-008) (1,00 P.)

Siehe Anlage 2

- 180°.
- 308°.
- 140°.
- 128°.

47 The distance from Weiz Unterfladnitz (LOGW) to Punitz Güssing (LOGG) equals:

See annex (NAV-009) (1,00 P.)

Siehe Anlage 3

- 27 NM.
- 72 NM.
- 51 NM.
- 15 NM.

48 The true course from Fürstenfeld (LOGF) to Weiz Unterfladnitz (LOGW) equals:

See annex (NAV-009) (1,00 P.)

Siehe Anlage 3

- 275°.
- 111°.
- 291°.
- 299°.

49 The true course from Wels (LOLW) to Kirchdorf Inn (EDNK) is:

See annex (NAV-008) (1,00 P.)

Siehe Anlage 2

- 268°.
- 247°.
- 274°.
- 288°.

- 50** You are planning a VFR flight from Salzburg (LOWS) to Linz (LOWL). The variation equals 3°E, the groundspeed reads 120 kts.

Determine the direct distance in NM (overhead-overhead).

See annex (NAV-008) (1,00 P.)

Siehe Anlage 2

- 101 km.
- 55 NM.
- 101 NM.
- 55 km.

- 51** **Given:**
True course: 255°.
TAS: 100 kt.
Wind: 200°/10 kt.

The true heading equals... (1,00 P.)

- 245°.
- 265°.
- 250°.
- 275°.

- 52** You are planning a VFR flight from Salzburg (LOWS) to Linz (LOWL). The variation equals 3°E, the groundspeed reads 120 kts.

Determine the flight time for the direct track:

See annex (NAV-008) (1,00 P.)

Siehe Anlage 2

- 2 hours 12 minutes.
- 18 minutes 13 seconds.
- 27 minutes 15 seconds.
- 1 hour 58 minutes.

- 53** A pilot is planning a VFR flight from Murska Sobota (LJMS) to Weiz/Unterfladnitz (LOGW) via the NDB Gleichenberg (GBG). The true airspeed (TAS) reads 100 kts, the mean variation (VAR) is 3°E. The calculation is based on overhead-overhead, disregard wind, climb and descent.

What is the total distance:

See annex (NAV-009) (1,00 P.)

Siehe Anlage 3

- 74 km.
- 40 km.
- 40 NM.
- 74 NM.

- 54** **Given:**
True course: 165°.
TAS: 90 kt.
Wind: 130°/20 kt.
Distance: 153 NM.

The true heading equals... (1,00 P.)

- 158°.
- 152°.
- 126°.
- 165°.

- 55** A pilot is planning a VFR flight from Murska Sobota (LJMS) to Weiz/Unterfladnitz (LOGW) via the NDB Gleichenberg (GBG). The true airspeed (TAS) reads 100 kts, the mean variation (VAR) is 3°E. The calculation is based on overhead-overhead, disregard wind, climb and descent.

What are the magnetic courses (MC)?

See annex (NAV-009) (1,00 P.)

Siehe Anlage 3

- MC LJMS > GBG: 313°.
MC GBG > LOGW: 339°.
- MC LJMS > GBG: 316°.
MC GBG > LOGW: 342°.
- MC LJMS > GBG: 313°.
MC GBG > LOGW: 342°.
- MC LJMS > GBG: 316°.
MC GBG > LOGW: 339°.

- 56 A pilot is planning a VFR flight from Ferlach-Glainach (LOKG) to Feldkirchen/Ossiacher See (LOKF) via reporting point Whiskey One (W1). The groundspeed (GS) reads 100 kts, the mean variation (VAR) is 3°E. The calculation is based on overhead-overhead, disregard wind, climb and descent.

What is the total distance?

See annex (NAV-010) (1,00 P.)

Siehe Anlage 4

- 30 km.
- 16 NM.
- 16 km.
- 30 NM.

- 57 Given:
Ground speed (GS): 160 kt.
True course (TC): 177°.
Wind vector (W/WS): 140°/20 kt.

The true heading (TH) equals...

(1,00 P.)

- 180°.
- 169°.
- 184°.
- 173°.

- 58 A pilot is planning a VFR flight from Ferlach-Glainach (LOKG) to Feldkirchen/Ossiacher See (LOKF) via reporting point Whiskey One (W1). The groundspeed (GS) reads 100 kts, the mean variation (VAR) is 3°E. The calculation is based on overhead-overhead, disregard wind, climb and descent.

What is the total flight time?

See annex (NAV-010) (1,00 P.)

Siehe Anlage 4

- 5 min.
- 7 min.
- 16 min.
- 10 min.

- 59** An aircraft is following a true course (TC) of 220° at a constant TAS of 220 kt. The wind vector is 270°/50 kt.

The ground speed (GS) equals...

(1,00 P.)

- 255 kt.
 185 kt.
 135 kt.
 170 kt.

- 60** The pilot is planning a direct flight from Zeltweg (LOXZ) to Trieben (LOGI). The variation equals 2°E.

What is the magnetic course (MC)?

See annex (NAV-011)

(1,00 P.)

Siehe Anlage 5

- 328°.
 332°.
 148°.
 152°.

- 61** 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...

(1,00 P.)

- 159 kt.
 168 kt.
 155 kt.
 172 kt.

- 62 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 wind correction angle (WCA) equals...

(1,00 P.)

- + 5°
 - 9°
 + 11°
 - 7°

- 63 The pilot is planning a direct flight from Zeltweg (LOXZ) to Trieben (LOGI). The variation equals 2°E.

What is the highest point along the track at a lateral distance of plus / minus 5 NM?

See annex (NAV-011)
(1,00 P.)

Siehe Anlage 5

- 7 693 ft.
 7 864 ft.
 7 926 ft.
 7 667 ft.

- 64 The first leg of a VFR Flight heads from Wiener Neustadt (LOAN) to the Tulln VOR (TUN 111.4 Mhz). The true airspeed (TAS) reads 140 kts, the variation (VAR) is 2°E, the wind is 090°/30 kt.

What is the magnetic course (MC)?

See annex (NAV-012) (1,00 P.)

Siehe Anlage 6

- 336°.
 156°.
 160°.
 340°.

- 65 Given:**
True course: 270°.
TAS: 100 kt.
Wind: 090°/25 kt.
Distance: 100 NM.
The ground speed (GS) equals... (1,00 P.)

- 117 kt.
 131 kt.
 125 kt.
 120 kt.

- 66 The first leg of a VFR Flight heads from Wiener Neustadt (LOAN) to the Tulln VOR (TUN 111.4 Mhz). The true airspeed (TAS) reads 140 kts, the variation (VAR) is 2°E, the wind is 090°/30 kt.**

What is the total distance ?

See annex (NAV-012) (1,00 P.)

Siehe Anlage 6

- 55 NM.
 30 km.
 48 km.
 30 NM.

- 67 Given:**
True course: 270°.
TAS: 100 kt.
Wind: 090°/25 kt.
Distance: 100 NM.

The flight time equals... (1,00 P.)

- 84 Min.
 37 Min.
 62 Min.
 48 Min.

- 68 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 wind correction angle (WCA) equals...

(1,00 P.)

- 7° left.
- 3° left.
- 3° right.
- 7° right.

- 69 You are planning a VFR flight from St.Georgen (LOLG) to Krems-Langenlois (LOAG). The variation (VAR) equals 2°E, the groundspeed reads 110 kt.

What is the total distance?

See annex (NAV-013) (1,00 P.)

Siehe Anlage 7

- 65 NM.
- 35 km.
- 35 NM.
- 61 km.

- 70 Given:
True course: 120°.
TAS: 120 kt.
Wind: 150°/12 kt.

The WCA equals... (1,00 P.)

- 3° to the right.
- 6° to the left.
- 6° to the right.
- 3° to the left.

- 71 A pilot is flying from Krems-Langenlois (LOAG) to St. Georgen am Ybbsfeld (LOLG). The aeroplane has a TAS of 100 kt and the wind is 250°/15 kt.

What is the flight time?

See annex (NAV-013) (1,00 P.)

Siehe Anlage 7

- Flight time: 29 min.
- Flight time: 19 min.
- Flight time: 24 min.
- Flight time: 32 min.

- 72 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?

(1,00 P.)

- 14° left
- 8° left
- 6° left
- 15° left

- 73 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? (1,00 P.)

- 6° to the right
- 12° to the right
- 18° to the right
- 9° to the right

- 74 What is the meaning of the 1:60 rule?**

(1,00 P.)

- 10 NM lateral offset at 1° drift after 60 NM
- 1 NM lateral offset at 1° drift after 60 NM
- 6 NM lateral offset at 1° drift after 10 NM
- 60 NM lateral offset at 1° drift after 1 NM

- 75 How many satellites are necessary for a precise and verified three-dimensional determination of the position? (1,00 P.)**

- Two
- Three
- Four
- Five

- 76 What is the highest elevation found in Austria? (1,00 P.)**

- 12000 ft
- 3797 m
- 3274 m
- 4810 m

77 You are flying to Schärding.**What ground feature do you use for orientation? (1,00 P.)**

- Inn
- Border fence
- Mühlbach
- Ampfelwang

78 What is meant by the term "terrestrial navigation"? (1,00 P.)

- Orientation by ground features during visual flight
- Orientation by instrument readings during visual flight
- Orientation by ground celestial object during visual flight
- Orientation by GPS during visual flight

79 What is the orientation of the main Austrian mountain ranges? (1,00 P.)

- North - South
- SSW to ENE
- East - West
- WNW to SSE

80 What projection technique is used for the Austrian Aeronautical Chart? (1,00 P.)

- Gnomonic projection
- Cylindrical projection
- stereographic projection
- Lambert conic projection

81 What ground features should preferably be used for orientation during visual flight? (1,00 P.)

- Farm tracks and creeks
- Border lines
- Rivers, railroads, highways
- Power lines

82 During a visual flight overhead Austria, around noon you head directly towards the sun.**In which direction then is East? (1,00 P.)**

- Ahead
- Right
- Left
- Behind

83 On a day in July, you land on an Austrian airfield at 1430 local time (CEST = UTC+2).

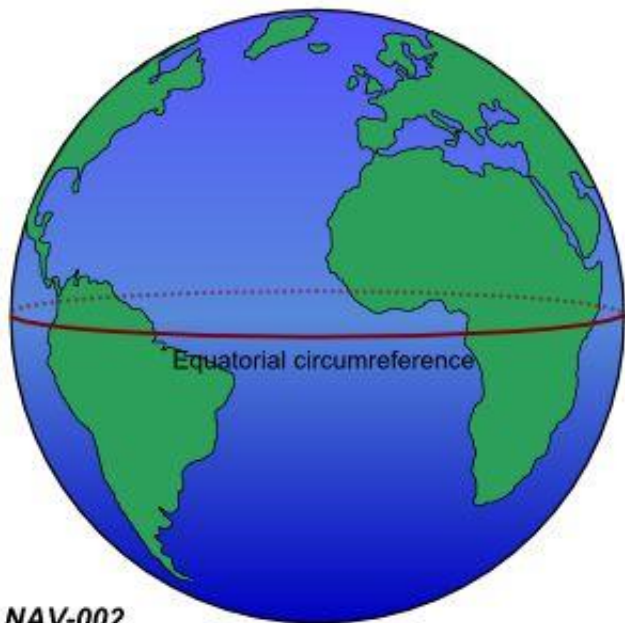
What time do you enter into the log book? (1,00 P.)

- 1230
- 1330
- 1430
- 1630

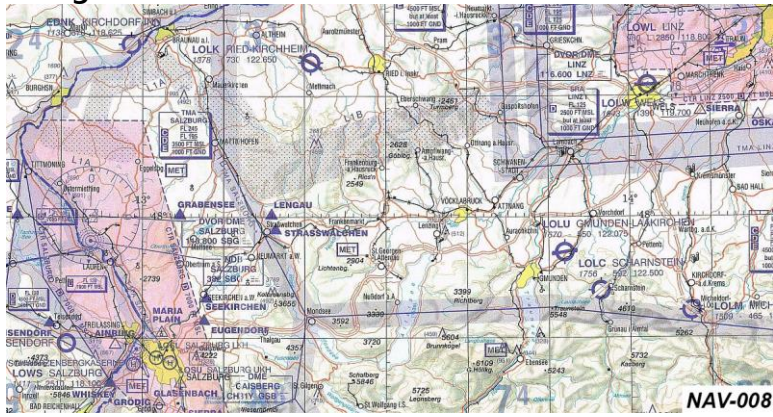
84 What length and latitude distance is covered by Austria? (1,00 P.)

- 580 km x 290 km
- 300 km x 300 km
- 1000 km x 500 km
- 200 km x 100 km

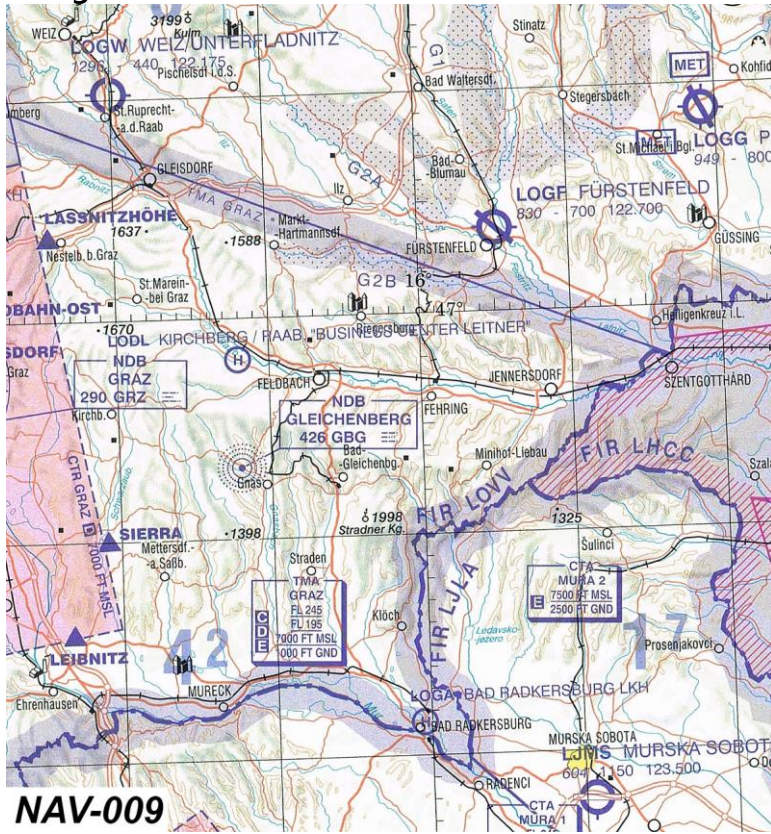
Anlage 1



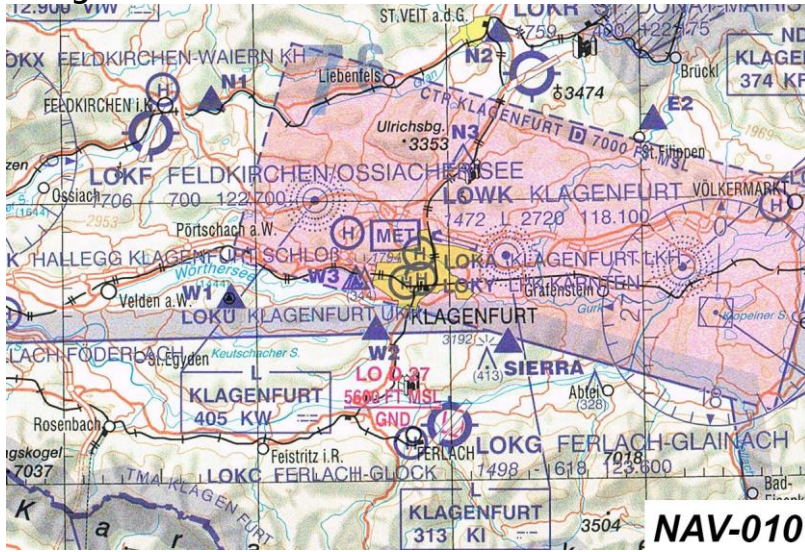
Anlage 2



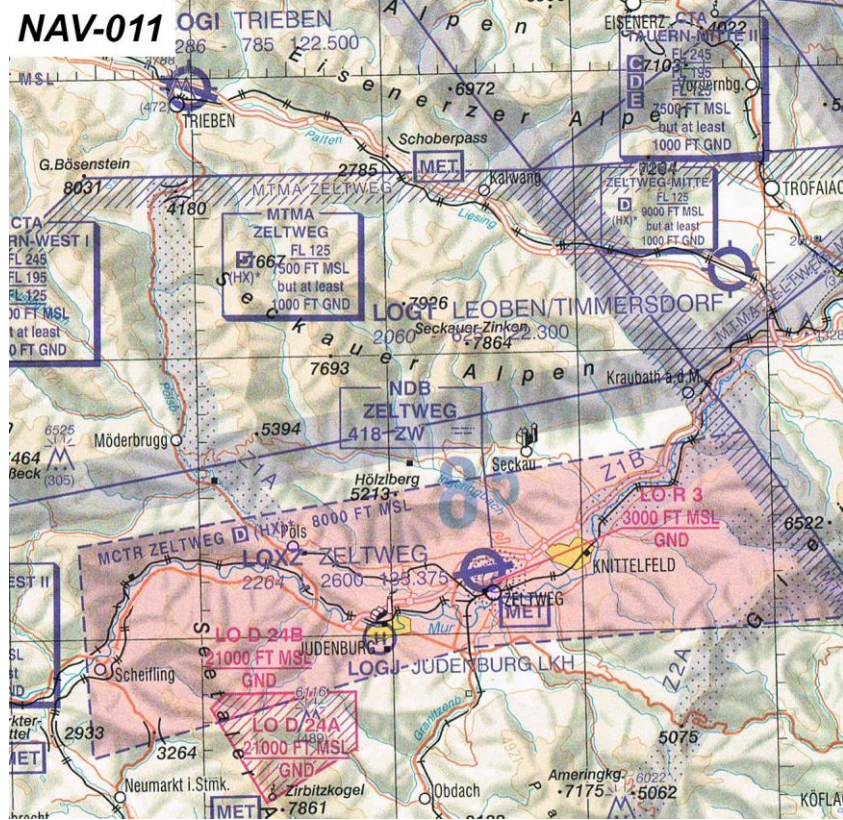
Anlage 3



Anlage 4



Anlage 5



Anlage 6



Anlage 7

