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Part-FCL question bank

SPL

(Excerpt)

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

☑A)   a great circle.
☐B)   a parallel of latitude.
☐C)   a rhumb line.
☐D)   a small circle.

2   What is the difference in latitude between A (12°53'30"N) and B (07°34'30"S)?

☐A)   20,28°
☑B)   20°28'00"
☐C)   05°19'00"
☐D)   05,19°

3   Where are the two polar circles?

☐A)   20.5° south of the poles
☐B)   At a latitude of 20.5°S and 20.5°N
☑C)   23.5° north and south of the poles
☐D)   23.5° north and south of the equator

4   What distance corresponds to one degree difference in latitude along any degree of longitude?

☑A)   60 NM
☐B)   30 NM
☐C)   1 NM
☐D)   60 km

5   What is the distance between the two parallels of longitude 150°E and 151°E along the equator?

☑A)   60 NM
☐B)   60 km
☐C)   111 NM
☐D)   1 NM

6   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...

☑A)   less than 600 NM.
☐B)   more than 300 NM.
☐C)   more than 600 NM.
☐D)   less than 300 NM.

7   What is the difference in time when the sun moves 10° of longitude?

☐A)   1:00 h
☐B)   0:04 h

☐C)   0:30 h

☑D)   0:40 h

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

☐A)   1700 UTC.

☑B)   1400 UTC.

☐C)   1500 UTC.

☐D)   1600 UTC.

9   UTC is...

☐A)   a zonal time.
☐B)   a local time in Central Europe.
☐C)   local mean time at a specific point on Earth.
☑D)   an obligatory time used in aviation.

10   The term 'civil twilight' is defined as...

☐A)   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.
☐B)   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.
☑C)   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.
☐D)   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.

11   Given:
     WCA: -012°; TH: 125°; MC: 139°; DEV: 002°E

     What are: TC, MH und CH?

     ☐A)   TC: 137°.
           MH: 139°.
           CH: 125°.

     ☑B)   TC: 137°.
           MH: 127°.
           CH: 125°.

     ☐C)   TC: 113°.
           MH: 127°.
           CH: 129°.

     ☐D)   TC: 113°.
           MH: 139°.
           CH: 129°.

12   Given:
     TC: 179°; WCA: -12°; VAR: 004° E; DEV: +002°

     What are MH and MC?

     ☐A)   MH: 167°.
           MC: 175°.
     ☐B)   MH: 163°.
           MC: 161°.
     ☑C)   MH: 163°.
           MC: 175°.
     ☐D)   MH: 167°.
           MC: 161°.

13   The angle between the true course and the true heading is called...
     ☑A)   WCA.
     ☐B)   inclination.
     ☐C)   deviation.
     ☐D)   variation.

14   The angle between the magnetic course and the true course is called...
     ☑A)   variation.
     ☐B)   deviation.
     ☐C)   WCA.
     ☐D)   inclination.

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

☑A)   the angle between true north and the course line.

☐B)   tthe angle between magnetic north and the course line.

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

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

16   Given:
TC: 183°; WCA: +011°; MH: 198°; CH: 200°

What are TH and VAR?

☐A)   TH: 194°.
       VAR: 004° E

☑B)   TH: 194°.
       VAR: 004° W

☐C)   TH: 172°.
       VAR: 004° E

☐D)   TH: 172°.
       VAR: 004° W

17   Given:
TC: 183°; WCA: +011°; MH: 198°; CH: 200°

What are the VAR and the DEV?

☐A)   VAR: 004° E.
       DEV: -002°.

☑B)   VAR: 004° W.
       DEV: -002°.

☐C)   VAR: 004° W.
       DEV: +002°.

☐D)   VAR: 004° E.
       DEV: +002°.

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

☐A)   WCA.

☑B)   deviation.

☐C)   inclination.

☐D)   variation.

19   The term 'agonic line' is defined as a line on Earth or an aeronautical chart, connecting all points with the...

☑A) variation of 0°.
☐B) deviation of 0°.
☐C) inclination of 0°.
☐D) heading of 0°.

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

☐A) feet (ft), inches (in)

☐B) Land miles (SM), sea miles (NM)
☑C) Nautical miles (NM), kilometers (km)

☐D) Yards (yd), meters (m)

21   What could be a reason for changing the runway indicators at aerodromes (e.g. from runway 06 to runway 07)?

☐A) The true direction of the runway alignment has changed
☐B) The magnetic deviation of the runway location has changed
☑C) The magnetic variation of the runway location has changed
☐D) The direction of the approach path has changed

22   Electronic devices on board of an aeroplane have influence on the...

☐A) turn coordinator.
☑B) direct reading compass.
☐C) airspeed indicator.
☐D) artificial horizon.

23   Which are the properties of a Mercator chart?

☐A) The scale is constant, great circles are depicted as straight lines, rhumb lines are depicted as curved lines

☐B) The scale is constant, great circles are depicted as curved lines, rhumb lines are depicted as straight lines

☐C) The scales increases with latitude, great circles are depicted as straight lines, rhumb lines are depicted as curved lines
☑D) The scales increases with latitude, great circles are depicted as curved lines, rhumb lines are depicted as straight lines

24 **Which are the properties of a Lambert conformal chart?**

☐A) Great circles are depicted as straight lines and the chart is an equal-area projection
☑B) The chart is conformal and nearly true to scale
☐C) Rhumb lines are depicted as straight lines and the chart is conformal
☐D) The chart is conformal and an equal-area projection

25 **A distance of 7.5 cm on an aeronautical chart represents a distance of 60.745 NM in reality.**

What is the chart scale?

☑A) 1 : 1500000
☐B) 1 : 1 000000
☐C) 1 : 500000
☐D) 1 : 150000

26 **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...

☐A) 245°.
☐B) 007°.
☐C) 238°.
☑D) 252°.

27 **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...

☐A) 1115 UTC.
☑B) 1105 UTC.
☐C) 1052 UTC.
☐D) 1005 UTC.

28   **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...

      ☐A) 1430 UTC
      ☐B) 1320 UTC

      ☐C) 1356 UTC
      ☑D) 1330 UTC

29   **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...

      ☐A) 1146 UTC.

      ☐B) 1045 UTC.

      ☑C) 1029 UTC.

      ☐D) 1129 UTC.

30   **An aircraft travels 100 km in 56 minutes.**

      The ground speed (GS) equals...

      ☑A) 107 km/h.
      ☐B) 93 kt.
      ☐C) 198 kt.
      ☐D) 58 km/h.

31   **An aircraft travels 110 NM within 01:25.**

The ground speed (GS) equals...

☐A)   86 kt.

☐B)   120 km/h.

☐C)   160 km/h.

☑D)   78 kt.

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

☐A)   0:34 h
☑B)   1:46 h
☐C)   0:46 h
☐D)   1:34 h

33   **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...

☐A)   435 NM.
☐B)   202 NM.
☐C)   693 NM.
☑D)   375 NM.

34   **An aircraft is flying at FL 75 with an outside air temperature (OAT) of -9°C. The QNH altitude is 6500 ft.**

The true altitude equals is:

☐A)   6500 ft
☐B)   6750 ft
☐C)   7000 ft
☑D)   6250 ft

35   **An aircraft is flying at a pressure altitude of 7000 feet with an outside air temperature (OAT) of +21°C. The QNH altitude is 6500 ft.**

The true altitude equals...

☐A)   6500 ft.
☐B)   6750 ft.
☑C)   7000 ft.
☐D)   6250 ft.

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

The true heading equals...

☑A) 250°.
☐B) 245°.
☐C) 265°.
☐D) 275°.

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

The true heading (TH) equals...

☐A) 180°.
☑B) 173°.
☐C) 184°.
☐D) 169°.

38 **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...

☐A) 255 kt.

☐B) 135 kt.

☑C) 185 kt.

☐D) 170 kt.

39 **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...

☐A) 172 kt.

☐B) 155 kt.

☐C) 168 kt.

☑D) 159 kt.

40 **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...

☐A) + 11°
☑B) - 7°
☐C) - 9°

☐D) + 5°

41 **Given:**
True course: 270°.
TAS: 100 kt.
Wind: 090°/25 kt.
Distance: 100 NM.
The ground speed (GS) equals...

☑A) 125 kt.

☐B) 131 kt.

☐C) 120 kt.

☐D) 117 kt.

42 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...

☐A) 7° right.
☐B) 3° left.
☑C) 7° left.
☐D) 3° right.

43 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?

☐A) 6° left
☐B) 8° left
☐C) 15° left
☑D) 14° left

44 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?

☐A) 6° to the right
☐B) 9° to the right
☑C) 12° to the right
☐D) 18° to the right

45 An aircraft is flying from 'A' to 'B' (distance 220 NM) at an average ground speed (GS) of 120 kt. It departs 'A' at 1200 UTC. After 70 NM along the course from 'A', the aircraft is 5 min ahead of the planned schedule.

Using the actual GS, what is the revised estimated time of arrival (ETA) at B?

☑A) 1335 UTC
☐B) 1345 UTC
☐C) 1330 UTC
☐D) 1340 UTC

46 **Which answer completes the flight plan (marked cells)?**

See annex (NAV-014)

Please pay attention to annex 1

☐A) TH: 173°.
     MH: 184°.
     MC: 178°.
☐B) TH: 185°.
     MH: 185°.
     MC: 180°.
☑C) TH: 185°.
     MH: 184°.
     MC: 178°.
☐D) TH: 173°.
     MH: 174°.
     MC: 178°.

47 **When using a GPS for tracking to the next waypoint, a deviation indication is shown by a vertical bar and dots to the left and to the right of the bar.**

What statement describes the correct interpretation of the display?

☑A) The deviation of the bar from the center indicates the track error as absolute distance in NM; the scale for full deflection depends on the operating mode of the GPS.
☐B) The deviation of the bar from the center indicates the track error as absolute distance in NM; the scale for full deflection is +-10 NM.
☐C) The deviation of the bar from the center indicates the track error as angular distance in degrees; the scale for full deflection is +-10°.
☐D) The deviation of the bar from the center indicates the track error as angular distance in degrees; the scale for full deflection depends on the operating mode of the GPS.

48 **What is meant by the term "terrestrial navigation"?**

☐A) Orientation by GPS during visual flight
☑B) Orientation by ground features during visual flight
☐C) Orientation by instrument readings during visual flight
☐D) Orientation by ground celestial object during visual flight

Annex 1

P6 NAV-014 VE TAS	P7 Wind W/V / Wind W/WS Richtung	P7 Geschw.	P8 rwk TC	P9 L WCA	rwSK TH	P9 MW VAR	P10 mwSK MH	P11 mwK MC
75	320	15	247	+11	258	1	257	246
95	320	15	152	+2	154	1	153	151
95	320	15	139	0	139	1	138	138
95	320	15	161	+3	164	1	163	160
95	320	15	179	+6		1		