

Exam simulation

Quiz BPL Gas - Balloon Pilot License - Meteorology



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STUDENT NAME:

DATE AND TIME:

01. What phrase is used by a pilot if a transmission is to be answered with "yes"?

- a) Affirmative
- b) Affirm
- c) Roger
- d) Yes

02. Doubling the pressure of a dry gas at constant temperature results in a change of the volume to:

- a) Double the previous value
- b) Four times the previous value.
- c) Half the previous value.
- d) A quarter of the previous value.

03. Weather phenomena are most common to be found in which atmospheric layer?

- a) Thermosphere
- b) Troposphere
- c) Tropopause
- d) Stratosphere

04. What wind conditions can be expected in areas showing large distances between isobars?

- a) Formation of local wind systems with strong prevailing westerly winds
- b) Strong prevailing westerly winds with rapid veering
- c) Variable winds, formation of local wind systems
- d) Strong prevailing easterly winds with rapid backing

05. Which characteristic is important when choosing sunglasses used by pilots?

- a) Curved sidepiece
- b) Unbreakable
- c) No UV filter
- d) Non-polarised

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06. Which instrument can be affected by the hysteresis error?

- a) Tachometer
- b) Altimeter
- c) Vertical speed indicator
- d) Direct reading compass

07. With regard to gases, which statement is correct?

- a) Temperature decreases with increasing pressure and constant volume
- b) Volume increases with increasing temperature and constant pressure.
- c) Pressure decreases with increasing temperature and constant volume.
- d) Temperature increases with increasing volume and decreasing pressure.

08. From which altitude on does the body usually react to the decreasing atmospheric pressure?

- a) 7000 feet
- b) 12000 feet
- c) 2000 feet
- d) 10000 feet

09. A boundary between a cold polar air mass and a warm subtropical air mass showing no horizontal displacement is called...

- a) Warm front.
- b) Occluded front.
- c) Cold front.
- d) Stationary front

10. How can the vents be checked before take-off with a gas balloon?

- a) Connecting the filling nozzle with the static line loop.
- b) Strongly shaking the vent rope
- c) Perform a valve slide
- d) Check if the ropes are clear and working.

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11. Which of the following symptoms may indicate hypoxia?

- a) Blue marks all over the body
- b) Blue discolouration of lips and fingernails
- c) Muscle cramps in the upper body area
- d) Joint pain in knees and feet

12. In case of radio communication failure within a CTR (control zone), the pilot has to ...

- a) This has no consequences while in VMC
- b) Maintain current altitude until leaving the control zone.
- c) Squawk transponer code A 7500.
- d) Continue the ride according to last clearance; in case of imminent danger land immediately

13. What phrase is used by a pilot to inform the tower about a go-around?

- a) Approach canceled
- b) Going around
- c) No landing
- d) Pulling up

14. The distance between two airports is 220 NM. On an aeronautical navigation chart the pilot measures 40.7 cm for this distance. The chart scale is...

- a) 1 : 2000000.
- b) 1 : 1000000.
- c) 1 : 500000.
- d) 1 : 250000.

15. The ongoing process to monitor the current flight situation is called...

- a) Anticipatory check procedure.
- b) Situational thinking.
- c) Constant flight check.
- d) Situational awareness.

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16. In a METAR, "(moderate) showers of rain" are designated by the identifier...

- a) .+TSRA.
- b) TS.
- c) SHRA.
- d) .+RA.

17. Carbon monoxide poisoning can be caused by...

- a) Unhealthy food
- b) Alcohol.
- c) Smoking.
- d) Little sleep.

18. Which answer contains every state of water found in the atmosphere?

- a) Liquid, solid, and gaseous
- b) Gaseous and liquid
- c) Liquid and solid
- d) Liquid

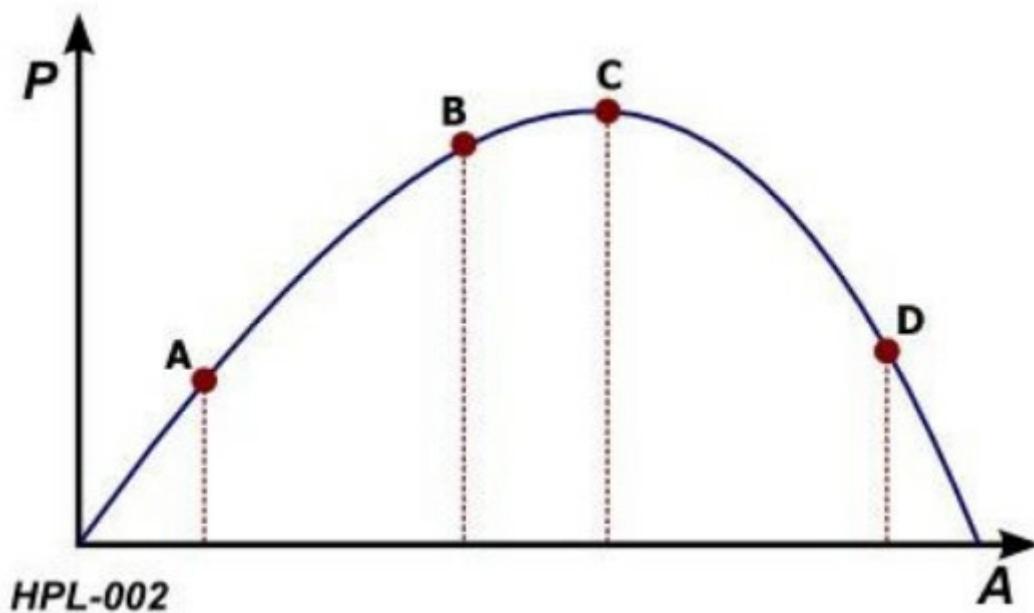
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19. The ideal level of arousal is at which point in the diagram? See figure (HPL- 002) P = Performance A = Arousal / Stress Siehe Anlage 1



- a) Point A
- b) Point C
- c) Point D
- d) Point B

20. What type of fog emerges if humid and almost saturated air, is forced to rise upslope of hills or shallow mountains by the prevailing wind?

- a) Orographic fog
- b) Radiation fog
- c) Steaming fog
- d) Advection fog

21. What is the approximate speed of electromagnetic wave propagation?

- a) 300000 m/s
- b) 123000 m/s
- c) 300000 km/s
- d) 123000 km/s

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22. The minimum length of the towing rope is:

- a) 20 m
- b) 50 m
- c) 100 m
- d) 30 m

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

- a) 60 km
- b) 30 NM
- c) 1 NM
- d) 60 NM

24. Which are the different parts of the Aeronautical Information Publication (AIP)?

- a) GEN ENR AD
- b) GEN MET RAC
- c) GEN COM MET
- d) GEN AGA COM

25. In which way may an altimeter subscale which is set to an incorrect QNH lead to an incorrect altimeter reading?

- a) If the subscale is set to a higher than actual pressure, the indication is too low. This may lead to much greater heights above the ground than intended
- b) If the subscale is set to a lower than actual pressure, the indication is too high. This may lead to much closer proximity to the ground than intended
- c) If the subscale is set to a lower than actual pressure, the indication is too low. This may lead to much closer proximity to the ground than intended
- d) If the subscale is set to a higher than actual pressure, the indication is too high. This may lead to much closer proximity to the ground than intended

26. What is the meaning of the phrase "Correction"?

- a) Permission for proposed action is granted
- b) An error has been made in this transmission. The correct version is...
- c) I have received all of your last transmission
- d) I understand your message and will comply with it

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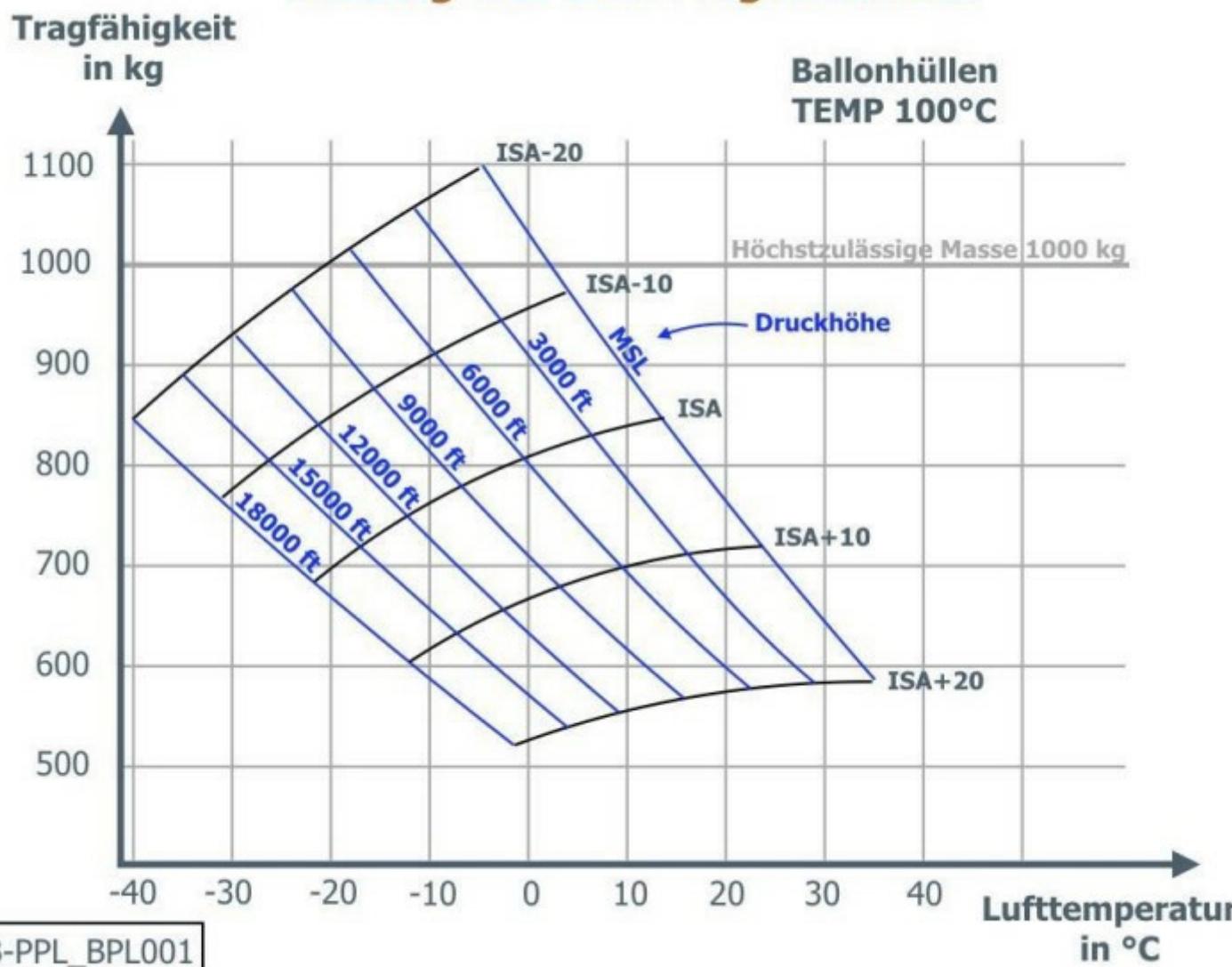
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27. Given the following masses: Empty mass 260 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg Assuming ISA temperatures, how many persons may be carried in the basket at maximum, if the balloon with 4 gas containers has to climb up to pressure altitude 9.000 ft ? (use attachment ECQB-PPL_BPL001) Siehe Anlage 1

Auszug aus dem Flughandbuch



- a) 4
- b) 5
- c) 2
- d) 3

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28. What is the correct term for a message used for air traffic control?

- a) Flight safety message
- b) Flight regularity message
- c) Message related to direction finding
- d) Meteorological message

29. Urgency messages are defined as...

- a) Messages concerning aircraft and their passengers which face a grave and imminent threat and require immediate assistance.
- b) Messages concerning urgent spare parts which are needed for a continuation of flight and which need to be ordered in advance.
- c) Messages concerning the safety of an aircraft, a watercraft or some other vehicle or person in sight.
- d) Information concerning the apron personell and which imply an imminent danger to landing aircraft.

30. A risk factor for decompression sickness is...

- a) Scuba diving prior to flight
- b) 100 % oxygen after decompression.
- c) Sports
- d) Smoking.

31. A vertical speed indicator connected to a too big equalizing tank results in...

- a) Mechanical overload
- b) No indication
- c) Indication too low
- d) Indication too high

32. Aerostatic lift, amongst other factors, depends on...

- a) On the speed.
- b) Balloon mass.
- c) Shape of the envelope.
- d) Air density.

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33. Which air traffic services can be expected within an FIR (flight information region)?

- a) FIS (flight information service) ALR (alerting service)
- b) ATC (air traffic control) FIS (flight information service)
- c) AIS (aeronautical information service) SAR (search and rescue)
- d) ATC (air traffic control) AIS (aeronautical information service)

34. How many satellites are necessary for a precise and verified three-dimensional determination of the position?

- a) Four
- b) Five
- c) Two
- d) Three

35. The density of helium gas under standard conditions is:

- a) 0,2 kg / m³
- b) 2 kg / m³
- c) 0,02 g / m³
- d) 0,2 g / m³

36. Which abbreviation is used for the term "visual flight rules"?

- a) VFS
- b) VRU
- c) VMC
- d) VFR

37. What is the minimum flight visibility in airspace "C" at and above FL 100 for an aircraft operating under VFR?

- a) 10 km
- b) 8 km
- c) 5 km
- d) 1.5 km

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38. Distress messages are messages...

- a) Sent by a pilot or an aircraft operating agency which have an imminent meaning for aircraft in flight.
- b) Concerning aircraft and their passengers which face a grave and imminent threat and require immediate assistance.
- c) Concerning the safety of an aircraft, a watercraft or some other vehicle or person in sight.
- d) Concerning the operation or maintenance of facilities which are important for the safety and regularity of flight operations.

39. The purpose of the drag lines of the parachute is ...

- a) To transfer the carrying force of the balloon in the top opening area
- b) To transfer the force from the pull rope to the parachute.
- c) To keep the parachute in the center of the top opening.
- d) To transfer the force from the pull rope to the free-balloon hull.

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

- a) The direction from an arbitrary point on Earth to the geographic North Pole.
- b) The angle between true north and the course line
- c) The angle between magnetic north and the course line.
- d) The direction from an arbitrary point on Earth to the magnetic north pole.

41. Before buildup, the buildup team has to be informed about correct behaviour at sudden critical situations how?

- a) Only at gusty winds
- b) Twice
- c) At least two days before
- d) By the balloon pilot

42. The aerostatic lift corresponds to which force?

- a) The dynamic force due to airstream across the top of the hull
- b) The weight of the displaced air
- c) The drag due to airstream around the balloon envelope
- d) The weight of the balloon less ballast

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43. The correct transponder code for emergencies is...

- a) 7500.
- b) 7600.
- c) 7000.
- d) 7700.

44. The burst of a hydrogen pressure line may result in what risk?

- a) The risk of hydrogen collecting in the basket and causing breath shortness.
- b) The risk of hydrogen self-igniting and burning with a bright flame.
- c) The risk of hydrogen dissipating to the atmosphere and poisoning the air
- d) The risk of hydrogen self-igniting and burning with invisible flame.

45. How may passengers assist the balloon pilot during landing preparation?

- a) By activating the emergency opening
- b) By stowing of loose parts
- c) By activating the vents
- d) By activating the pull rope

46. What is meant by "inversion layer"?

- a) An atmospheric layer where temperature increases with increasing height
- b) A boundary area between two other layers within the atmosphere
- c) An atmospheric layer with constant temperature with increasing height
- d) An atmospheric layer where temperature decreases with increasing height

47. The vertical speed indicator measures the difference of pressure between...

- a) The present dynamic pressure and the dynamic pressure of a previous moment.
- b) The present total pressure and the total pressure of a previous moment.
- c) The present dynamic pressure and the static pressure of a previous moment
- d) The present static pressure and the static pressure of a previous moment.

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48. A flight is called a "visual flight", if the...

- a) Flight is conducted in visual meteorological conditions.
- b) Visibility in flight is more than 8 km
- c) Flight is conducted under visual flight rules.
- d) Visibility in flight is more than 5 km.

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

- a) A small circle.
- b) A great circle.
- c) A rhumb line
- d) A parallel of latitude.

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

- a) 1:00 h
- b) 1:20 h
- c) 0:20 h
- d) 0:40 h

51. What is the percentage of oxygen in the atmosphere at 6000 ft?

- a) 78 %
- b) 21 %
- c) 12 %
- d) 18.9 %

52. A pilot license issued in accordance with ICAO Annex 1 is valid in...

- a) The country where the license was acquired.
- b) All ICAO countries
- c) The country where the license was issued
- d) Those countries that have accepted this license on application.

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53. Which dangerous attitudes are often combined?

- a) Impulsivity and carefulness
- b) Macho and invulnerability
- c) Self-abandonment and macho
- d) Invulnerability and self-abandonment

54. What effect has the elevation above MSL of an airfield on the carrying force and maximum take-off mass of a balloon?

- a) The lower the elevation, the lower the maximum take-off mass.
- b) The lower the elevation, the greater the carrying force.
- c) The lower the elevation, the higher the maximum take-off mass.
- d) The higher the elevation, the greater the carrying force.

55. What effect can sudden insolation from sunlight have on a gas balloon?

- a) The height at maximum differential pressure decreases.
- b) The height at maximum differential pressure increases.
- c) The hull pressure decreases.
- d) A sudden increase in rate of descent.

56. How can wind speed and wind direction be derived from surface weather charts?

- a) By annotations from the text part of the chart
- b) By alignment of lines of warm- and cold fronts
- c) By alignment and distance of isobaric lines
- d) By alignment and distance of hypsometric lines

57. Visual illusions are mostly caused by...

- a) Misinterpretation of the brain.
- b) Binocular vision.
- c) Rapid eye movements.
- d) Colour blindness.

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58. The vertical extend of air with pressure changing by 1% with 80 m difference in height is referred to as ...

- a) Unstable
- b) Homogene
- c) Stable
- d) Inhomogene

59. According ISA, what is the density of air at MSL?

- a) 1.225 g/m³
- b) 1225 kg/m³
- c) 1.225 kg/m³
- d) 12.25 kg/m³

60. At time of take-off, ground wind speed is 2 m/s. Along take-off flight path, at a distance of 320 m obstacles erect up to 30 m. What is the minimum rate of climb to keep a clearance of 50 m above the obstacles? (Consider double the ground wind speed for the flight path)

- a) 1 m/s
- b) 1.5 m/s
- c) 2 m/s
- d) 0.5 m/s

61. At time of take-off, ground wind speed is 3 m/s. Along take-off flight path, at a distance of 270 m obstacles erect up to 40 m. What is the minimum rate of climb to keep a clearance of 50 m above the obstacles? (Consider double the ground wind speed for the flight path)

- a) 1 m/s
- b) 2 m/s
- c) 1.5 m/s
- d) 0.5 m/s

62. The ratio between air pressures at different heights is referred to as:

- a) Height value
- b) Pressure number
- c) Height ratio
- d) Height number

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63. Environmental air temperature and filling gas temperature are the same. Now, the free balloon descents into warmer air. What statement is correct?

- a) Descent force increases.
- b) Descent force decreases.
- c) Weight force increases.
- d) Weight force decreases.

64. What is the mean height of the tropopause according to ISA (ICAO Standard Atmosphere)?

- a) 36000 m
- b) 11000 ft
- c) 11000 m
- d) 18000 ft

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65. What cloud type does the picture show? See figure (MET-002). Siehe Anlage 2



- a) Altus
- b) Stratus
- c) Cumulus
- d) Cirrus

66. In what case is the pilot allowed to abbreviate the call sign of his aircraft?

- a) After the ground station has used the abbreviation
- b) Within controlled airspace
- c) If there is little traffic in the traffic circuit
- d) After passing the first reporting point

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67. Which of the following options are possible SSR-Transponder modes?

- a) B, R, S
- b) A, C, S
- c) A, C, R
- d) B, C, V

68. What is the correct way of acknowledging "You are now entering airspace Delta"?

- a) Entering
- b) Airspace Delta
- c) Wilco
- d) Roger

69. Which transponder code indicates a loss of radio communication?

- a) 7700
- b) 7600
- c) 7000
- d) 2000

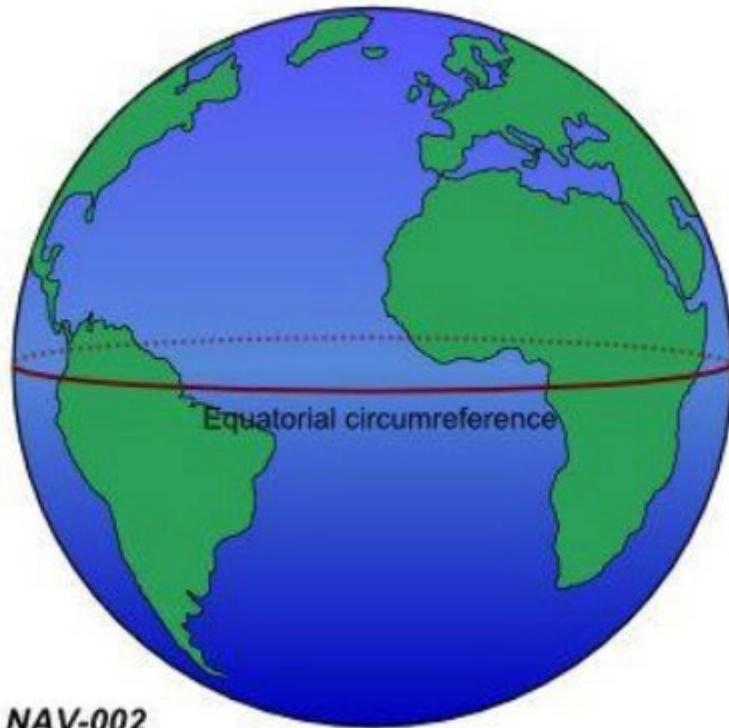
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70. The circumference of the Earth at the equator is approximately... See figure (NAV-002) Siehe Anlage 1



- a) 40000 NM
- b) 12800 km
- c) 10800 km.
- d) 21600 NM.

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Response Scheme

Compare your answers with the following diagram and mark your score!

01: **B**

02: **C**

03: **B**

04: **C**

05: **D**

06: **B**

07: **B**

08: **A**

09: **D**

10: **C**

11: **B**

12: **D**

13: **B**

14: **B**

15: **D**

16: **C**

17: **C**

18: **A**

19: **D**

20: **A**

21: **C**

22: **D**

23: **D**

24: **A**

25: **D**

26: **B**

27: **A**

28: **A**

29: **C**

30: **A**

31: **D**

32: **D**

33: **A**

34: **A**

35: **A**

36: **D**

37: **B**

38: **B**

39: **B**

40: **B**

41: **D**

42: **B**

43: **D**

44: **D**

45: **B**

46: **A**

47: **D**

48: **C**

49: **B**

50: **B**

51: **B**

52: **B**

53: **B**

54: **B**

55: **A**

56: **C**

57: **A**

58: **B**

59: **C**

60: **A**

61: **B**

62: **D**

63: **A**

64: **C**

65: **C**

66: **A**

67: **B**

68: **D**

69: **B**

70: **D**

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Response form

Use this form to mark your answers

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