

Exam simulation

Quiz BPL Hot Air - Balloon Pilot License - Meteorology



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STUDENT NAME:

DATE AND TIME:

01. After take-off with a balloon, obstacles at a distance of 600 m erect in expected flight path up to 40 m height. Rate of climb is expected with 1.5 m/s. What maximum actual wind speed can be accepted to maintain a clearance of 50 m above obstacles, assuming double the actual wind speed for calculation?

- a) 1 m/s
- b) 3 m/s
- c) 5 m/s
- d) 10 m/s

02. What has to be considered at moderate wind speeds during a balloon ride across mountainous area with cloud-free sky?

- a) Decreasing burner power.
- b) Altimeter indication too low.
- c) Icing conditions.
- d) Lee waves and severe up- and downdrafts

03. An aircraft travels 100 km in 56 minutes. The ground speed (GS) equals...

- a) 93 kt.
- b) 198 kt.
- c) 107 km/h.
- d) 58 km/h.

04. The movement of air flowing apart is called...

- a) Divergence
- b) Concordence.
- c) Convergence.
- d) Subsidence.

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05. Air consists of oxygen, nitrogen and other gases. What is the approximate percentage of other gases?

- a) 1 %
- b) 21 %
- c) 0.1 %
- d) 78 %

06. What information is provided in the part "AD" of the AIP?

- a) Access restrictions for airfields, passenger controls, requirements for pilots, license samples and validity periods
- b) Table of content, classification of airfields with corresponding maps, approach charts, taxi charts
- c) Warnings for aviation, ATS airspaces and routes, restricted and dangerous airspaces.
- d) Map icons, list of radio nav aids, time for sunrise and sunset, airport fees, air traffic control fees

07. After take-off with a balloon, obstacles at a distance of 300 m erect in expected flight path up to 40 m height. Rate of climb is expected with 1.5 m/s. What maximum actual wind speed can be accepted to maintain a clearance of 50 m above obstacles, assuming double the actual wind speed for calculation?

- a) 8 m/s
- b) 2.5 m/s
- c) 10 m/s
- d) 1 m/s

08. What is the meaning of the abbreviation "ARC"?

- a) Airspace Restriction Criteria
- b) Airworthiness Recurring Control
- c) Airworthiness Review Certificate
- d) Airspace Rulemaking Committee

09. With regard to global circulation within the atmosphere, where does polar cold air meets subtropical warm air?

- a) At the subtropical high pressure belt
- b) At the equator
- c) At the polar front
- d) At the geographic poles

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10. Which weather phenomenon is typically associated with wind shear?

- a) Invernal warm front
- b) Stable high pressure areas.
- c) Thunderstorms.
- d) Fog.

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

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

12. Which is the purpose of the altimeter subscale?

- a) To reference the altimeter reading to a predetermined level such as mean sea level, aerodrome level or pressure level 1013.25 hPa
- b) To correct the altimeter reading for system errors
- c) To set the reference level for the altitude decoder of the transponder
- d) To adjust the altimeter reading for non-standard temperature

13. What is the status of the rules and procedures created by the EASA? (e.g. Part-SFCL, Part-MED)

- a) They have the same status as ICAO Annexes
- b) They are not legally binding, they only serve as a guide
- c) They are part of the EU regulation and legally binding to all EU member states
- d) Only after a ratification by individual EU member states they are legally binding

14. What has to be considered before a balloon ride across water surfaces?

- a) Continuous radio communication has to be established with air traffic control
- b) A transponder has to be installed and carried aboard
- c) A flight plan with detailed routing has to be filed.
- d) For all people inside the basket life jackets have to be carried aboard

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15. A balloon pilot decides to use one or more separate gas containers for initial heating during buildup. To ensure a safe buildup ...

- a) To expedite take-off, the gas containers have to be stored outside.
- b) The gas containers have to be fixed safely inside the basket.
- c) No separate gas containers are allowed during buildup.
- d) Two gas containers (one inside, one outside) are to be used.

16. Visual illusions are mostly caused by...

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

17. Lower-than-standard temperature may lead to...

- a) An altitude indication which is too high.
- b) An altitude indication which is too low.
- c) A correct altitude indication as long as the altimeter subscale is set to correct for non-standard temperature
- d) A blockage of the Pitot tube by ice, freezing the altimeter indication to its present value.

18. What action has to be considered by the pilot of a hot-air balloon with a double-burner installation, in case one burner valve fails?

- a) An emergency call should be made.
- b) Both burner valves have to be shut down immediately.
- c) The ride has to be stopped immediately.
- d) The ride can be continued by use of the remaining burner.

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

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

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20. Which wind system may be dangerous for balloon rides in the Alps?

- a) Bora
- b) Scirocco
- c) Mistra
- d) Foehn

21. In which situation is it NOT possible to achieve a pressure compensation between the middle ear and the environment?

- a) During a light and slow climb
- b) Breathing takes place using the mouth only
- c) The eustachien tube is blocked
- d) All windows are completely closed

22. Temperatures will be given by meteorological aviation services in Europe in which unit?

- a) Degrees Centigrade (° C)
- b) Degrees Fahrenheit
- c) Gpdam
- d) Kelvin

23. Which of the following statements is correct?

- a) The density of hull air is lower with decreasing environmental pressure
- b) The density of hull air is higher with increasing environmental pressure
- c) The density of hull air is lower than environmental air only if the hull temperature is lower than environmental temperature
- d) The density of hull air is lower than environmental air only if the hull temperature is higher than environmental temperature

24. The stretch-out of the envelope of a hot-air balloon should be made:

- a) To the lee side of the basket
- b) To the luv side of the basket
- c) To the sunward side of the basket
- d) To the sun-averted side of the basket

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25. If there is any doubt about ambiguity, a time of 1620 is to be transmitted as...

- a) One six two zero.
- b) Sixteen twenty
- c) One thousand six hundred two zero.
- d) Two zero.

26. Which force causes "wind"?

- a) Thermal force
- b) Pressure gradient force
- c) Coriolis force
- d) Centrifugal force

27. How do dew point and relative humidity change with decreasing temperature?

- a) Dew point increases, relative humidity decreases
- b) Dew point remains constant, relative humidity decreases
- c) Dew point remains constant, relative humidity increases
- d) Dew point decreases, relative humidity increases

28. What is the meaning of an area marked as "TMZ"?

- a) Touring Motorglider Zone
- b) Traffic Management Zone
- c) Transponder Mandatory Zone
- d) Transportation Management Zone

29. The aerostatic lift corresponds to which force?

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

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30. What impact may rain have on operation of a hot-air balloon?

- a) Total mass and gas consumption increase
- b) Rain drops hitting on the hull reduce the lift force.
- c) The hull is deformed, which reduces lift.
- d) The hull is cooled, resulting in less gas consumption.

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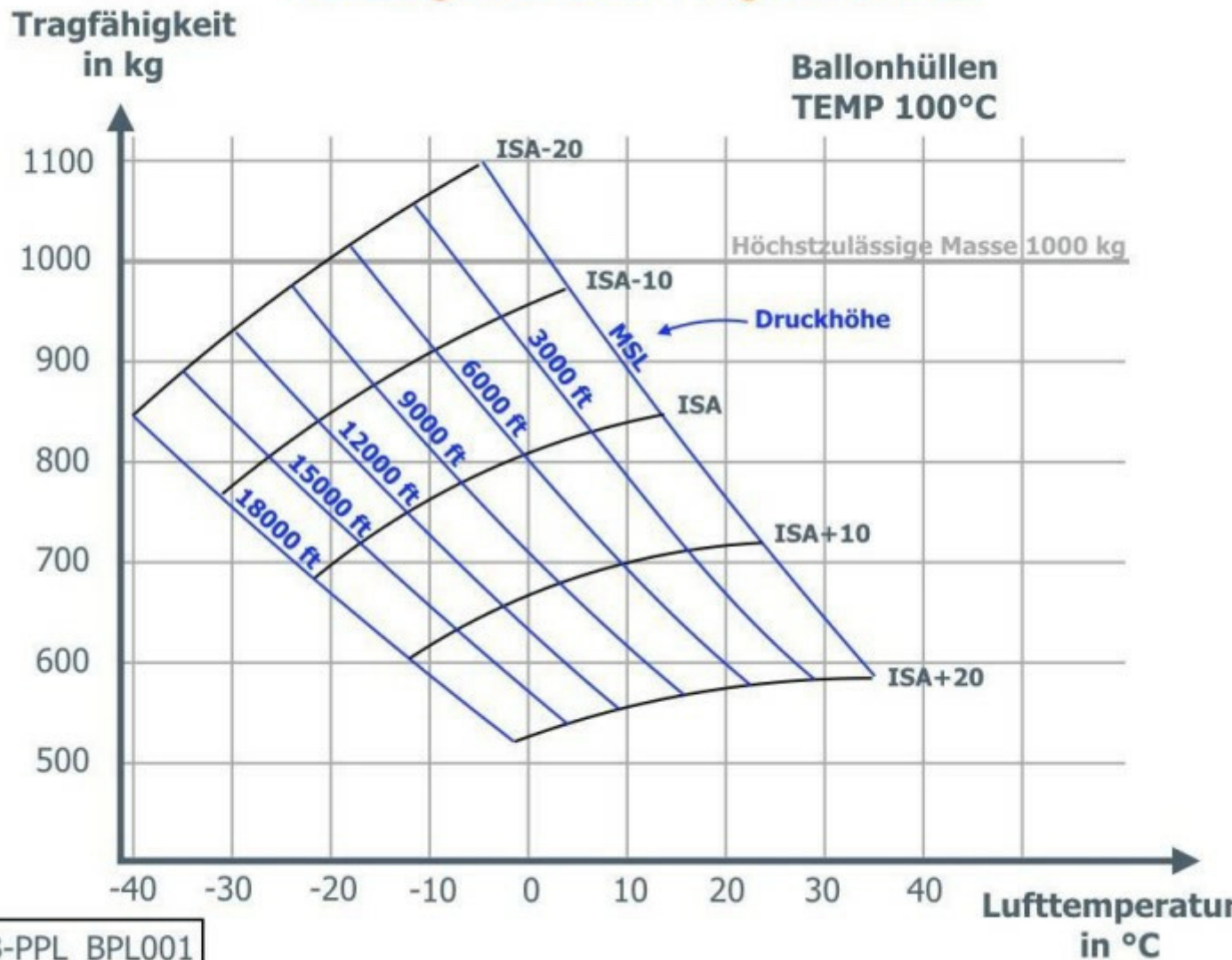
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31. Given the following masses: Empty mass 260 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg Assuming ISA temperatures, how many persons may be carried in the basket at maximum, if the balloon with 4 gas containers has to climb 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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32. Which area could be crossed with certain restrictions?

- a) Restricted area
- b) No-fly zone
- c) Prohibited area
- d) Dangerous area

33. How can you obtain meteorological information concerning airports during a crosscountry flight?

- a) AIRMET
- b) VOLMET
- c) METAR
- d) GAMET

34. Wake turbulence is particularly strong...

- a) When flying at high speeds.
- b) When flying at low altitudes.
- c) When flying at low speeds.
- d) When flying at high altitudes.

35. What pressure pattern can be observed during the passage of a polar front low?

- a) Falling pressure in front of the warm front, constant pressure within the warm sector, falling pressure behind the cold front
- b) Falling pressure in front of the warm front, constant pressure within the warm sector, rising pressure behind the cold front
- c) Rising pressure in front of the warm front, constant pressure within the warm sector, rising pressure behind the cold front
- d) Rising pressure in front of the warm front, rising pressure within the warm sector, falling pressure behind the cold front

36. 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

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37. For what approximate time period can the short-time memory store information?

- a) 10 to 20 seconds
- b) 3 to 7 seconds
- c) 30 to 40 seconds
- d) 35 to 50 seconds

38. What is a latent error?

- a) An error which has an immediate effect on the controls
- b) An error which is made by the pilot actively and consciously
- c) An error which remains undetected in the system for a long time
- d) An error which only has consequences after landing

39. Who provides search and rescue service?

- a) Only military organisations
- b) Both military and civil organisations
- c) Only civil organisations
- d) Only civil organisations

40. Which of the following options states the working principle of a vertical speed indicator?

- a) Total air pressure is measured and compared to static pressure
- b) Static air pressure is measured and compared against a vacuum
- c) Measuring the present static air pressure and comparing it to the static air pressure inside a reservoir
- d) Measuring the vertical acceleration through the displacement of a gimbal-mounted mass

41. The term "static pressure" is defined as pressure...

- a) Of undisturbed airflow.
- b) Sensed by the pitot tube
- c) Inside the airplane cabin.
- d) Resulting from orderly flow of air particles.

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

- a) They are used as easily recognizable guidance upon a possible loss of orientation
- b) To visualize the range limitation from the departure aerodrome
- c) They help to continue the flight when flight visibility drops below VFR minima
- d) To mark the next available en-route airport during the flight

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

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

44. What factors are required for the formation of precipitation in clouds?

- a) High humidity and high temperatures
- b) The presence of an inversion layer
- c) Calm winds and intensive sunlight insolation
- d) Moderate to strong updrafts

45. What is the call sign of the aerodrome control?

- a) Ground
- b) Tower
- c) Airfield
- d) Control

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

- a) Inclination.
- b) WCA.
- c) Deviation.
- d) Variation.

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47. Point A on the Earth's surface lies exactly on the parallel of latitude of 47°50'27"N. Which point is exactly 240 NM north of A?

- a) 53°50'27"N
- b) 49°50'27"N
- c) 43°50'27"N
- d) 51°50'27"N

48. The basket ropes of a hot-air balloon are usually fixed to ...

- a) The burner
- b) The burner cage.
- c) To the Scoop.
- d) The Nomex apron.

49. What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL110?

- a) 1500 m
- b) 3000 m
- c) 8000 m
- d) 5000 m

50. In what situation is it appropriate to set the transponder code 7600?

- a) Hijacking
- b) Loss of radio
- c) Flight into clouds
- d) Emergency

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51. (For this question, please use annex PFP-061) According ICAO, what symbol indicates a group of unlighted obstacles? Siehe Anlage 5



PFP-061

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

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

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

53. 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

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54. What is the correct way of acknowledging the instruction "DZF after lift-off climb straight ahead until 2500 feet before turning right heading 220 degrees, wind 090 degrees, 5 knots, runway 12, cleared for take-off"?

- a) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, runway 12, cleared for take-off
- b) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, 090 degrees, 5 knots, cleared for take-off
- c) DZF after lift-off climb straight ahead 2500 feet, wilco, heading 220 degrees, 090 degrees, 5 knots, cleared for take-off
- d) DZF after lift-off climb straight ahead 2500 feet, then turn right heading 220, 090 degrees, 5 knots

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

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

56. The main burner is fed by which phase?

- a) By the low-pressure phase
- b) By the gas phase
- c) By the plasma phase
- d) By the liquid phase

57. Which of the gases stated below is NOT made up from hydrocarbons?

- a) Propane
- b) Butane
- c) Methane
- d) Hydrogen

58. What pressure pattern may result from cold-air inflow in high tropospheric layers?

- a) Formation of a low in the upper troposphere
- b) Formation of a large ground low
- c) Alternating pressure
- d) Formation of a high in the upper troposphere

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59. The directional information "12 o'clock" is correctly transmitted as...

- a) Twelve o'clock
- b) One two.
- c) One two hundred.
- d) One two o'clock.

60. Which factor can lead to human error?

- a) Double check of relevant actions
- b) To be doubtful if something looks unclear or ambiguous
- c) The bias to see what we expect to see
- d) Proper use of checklists

61. Liquifaction of propane gas results in a reduction in volume to what fraction of the gas volume?

- a) 1/160
- b) 1/260
- c) 1/360
- d) 1/60

62. What wind is reportet as 225/15 ?

- a) North-east wind with 15 km/h
- b) South-west wind with 15 km/h
- c) South-west wind with 15 kt
- d) North-east wind with 15 kt

63. With respect to aircraft accident and incident investigation, what are the three categories regarding aircraft occurrences?

- a) Incident Serious incident Accident
- b) Event Serious event Accident
- c) Happening Event Serious event
- d) Event Crash Disaster

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64. 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 true 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 apparent horizon.

65. An altitude of 4500 ft is transmitted as...

- a) Four five zero zero
- b) Four thousand five zero zero.
- c) Four five thousand.
- d) Four thousand five hundred.

66. What weather conditions can be expected during "Foehn" on the windward side of a mountain range?

- a) Layered clouds, mountains obscured, poor visibility, moderate or heavy rain
- b) Scattered cumulus clouds with showers and thunderstorms
- c) Calm wind and forming of high stratus clouds (high fog)
- d) Dissipating clouds with unusual warming, accompanied by strong, gusty winds

67. What weather conditions in Central Europe are typically found in high pressure areas during summer?

- a) Small isobar spacing with strong prevailing northerly winds
- b) Large isobar spacing with calm winds, formation of local wind systems
- c) Large isobar spacing with strong prevailing westerly winds
- d) Small isobar spacing with calm winds, formation of local wind systems

68. Which stage of a thunderstorm is dominated by updrafts?

- a) Upwind stage
- b) Cumulus stage
- c) Mature stage
- d) Dissipating stage

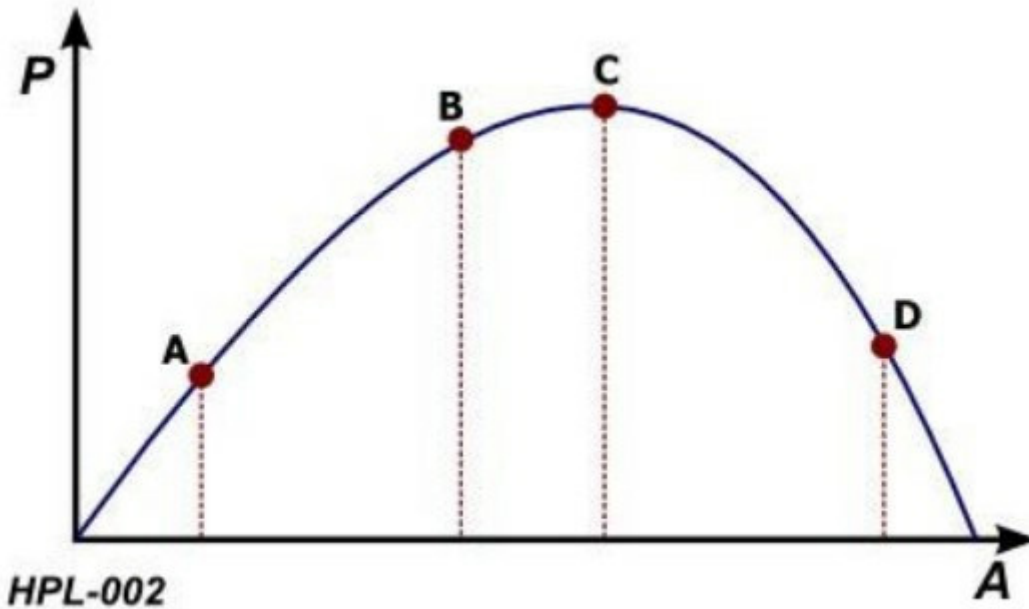
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69. The ideal level of arousal is at which point in the diagram? See figure (HPL- 002) P = Performance A = Arousal / Stress Siehe Anlage 1



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

70. While overflying a waypoint, it is stated that a distance of 2 NM has been taken 10 min. What will be the expected time of endurance for the complete distance of 18 NM?

- a) 60 min.
- b) 12 min.
- c) 180 min.
- d) 90 min.

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Response Scheme

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

01: C	02: D	03: C	04: A
05: A	06: B	07: B	08: C
09: C	10: C	11: B	12: A
13: C	14: D	15: B	16: A
17: A	18: D	19: A	20: D
21: C	22: A	23: D	24: A
25: A	26: B	27: C	28: C
29: C	30: A	31: A	32: A
33: B	34: C	35: B	36: A
37: A	38: C	39: B	40: C
41: A	42: A	43: A	44: D
45: B	46: C	47: D	48: B
49: C	50: B	51: A	52: D
53: B	54: A	55: C	56: D
57: D	58: A	59: A	60: C
61: B	62: C	63: A	64: C
65: D	66: A	67: B	68: B
69: D	70: D		

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Response form

Use this form to mark your answers

01: _____	02: _____	03: _____	04: _____
05: _____	06: _____	07: _____	08: _____
09: _____	10: _____	11: _____	12: _____
13: _____	14: _____	15: _____	16: _____
17: _____	18: _____	19: _____	20: _____
21: _____	22: _____	23: _____	24: _____
25: _____	26: _____	27: _____	28: _____
29: _____	30: _____	31: _____	32: _____
33: _____	34: _____	35: _____	36: _____
37: _____	38: _____	39: _____	40: _____
41: _____	42: _____	43: _____	44: _____
45: _____	46: _____	47: _____	48: _____
49: _____	50: _____	51: _____	52: _____
53: _____	54: _____	55: _____	56: _____
57: _____	58: _____	59: _____	60: _____
61: _____	62: _____	63: _____	64: _____
65: _____	66: _____	67: _____	68: _____
69: _____	70: _____		