

Exam simulation

Quiz BPL Hot Air - Balloon Pilot License - Flight Performance and Planning



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STUDENT NAME:

DATE AND TIME:

01. The term "ceiling" is defined as the...

- a) Height of the base of the highest layer of clouds covering more than half of the sky below 20000 ft.
- b) Height of the base of the lowest layer of clouds covering more than half of the sky below 10000 ft.
- c) Altitude of the base of the lowest layer of clouds covering more than half of the sky below 20000 ft
- d) Height of the base of the lowest layer of clouds covering more than half of the sky below 20000 ft

02. What statement is correct with regard to the density of a gas?

- a) The density increases with increasing temperature and constant volume.
- b) The density decreases with decreasing volume and constant temperature.
- c) The density decreases with increasing temperature and constant volume.
- d) The density decreases with increasing temperature and constant pressure.

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

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

04. 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

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05. The final sinkrate of a hot-air ballon is achieved after descent over a vertical distance of:

- a) 1000 - 2000 m
- b) 50 - 100 m
- c) 250 - 450 m
- d) 500 - 1000 m

06. The maximum number of passengers can be found ...

- a) In the certificate of registration.
- b) In the operating handbook.
- c) In the Flight Log book.
- d) In the airworthiness certificate.

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

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

08. A cross-country flight is made using the ICAO 1 : 500.000 aeronautical chart. An overflight crosscheck shows that a distance of 6 cm in the chart has been passed within 9 minutes. After how many more minutes, the overflight of another waypoint at a chart distance of additional 4 cm can be expected?

- a) 18 min.
- b) 6 min.
- c) 12 min.
- d) 9 min.

09. Which of the following qualities are influenced by stress? 1. Attention 2. Concentration 3. Responsiveness 4. Memory

- a) 2, 4
- b) 1
- c) 1, 2, 3, 4
- d) .1, 2, 3

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10. At which conditions does the arm blower have the highest efficiency?

- a) With as small distance to the balloon opening as possible.
- b) By evenly swiveling for better air spreading.
- c) By completely filling the balloon opening with the air beam.
- d) By placing the blower inside the hull.

11. What weather conditions can be expected in high pressure areas during winter?

- a) Squall lines and thunderstorms
- b) Changing weather with passing of frontal lines
- c) Calm winds and widespread areas with high fog
- d) Calm weather and cloud dissipation, few high Cu

12. What is the primary purpose of an aircraft accident investigation?

- a) To Determine the guilty party and draw legal consequences
- b) To identify the reasons and work out safety recommendations
- c) To clarify questions of liability within the meaning of compensation for passengers
- d) To work for the public prosecutor and help to follow-up flight accidents

13. 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

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

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

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15. What factors may indicate a tendency to fog formation?

- a) Low pressure, increasing temperature
- b) Strong winds, decreasing temperature
- c) Low spread, increasing temperature
- d) Low spread, decreasing temperature

16. 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.

17. How does a gas react when released from a pressurized container?

- a) The gas cools adiabatically due to expansion
- b) The gas cools due to thermal contact with environmental air.
- c) The gas heats adiabatically due to expansion.
- d) The gas condenses inside the envelope.

18. What is the distance between the parallels of latitude 48°N and 49°N along a meridian line?

- a) 10 NM
- b) 111 NM
- c) 60 NM
- d) 1 NM

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

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

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

- a) 0:04 h
- b) 0:40 h
- c) 0:30 h
- d) 1:00 h

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

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

23. 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

24. Which of the following factors affects the reception of VHF transmissions?

- a) Altitude
- b) Twilight error
- c) Shoreline effect
- d) Height of ionosphere

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25. 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

26. What has to be expected by the balloon pilot during descent in deeply cooled layers close to the ground?

- a) Balloon starts to climb
- b) Sudden change in airspeed.
- c) Increasing descent while entering to ground layers
- d) Floating on top of the cold air layer.

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

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

28. The parapet height of a hot-air balloon basket is at least:

- a) 100 cm, in commercial operation 110 cm
- b) 80 cm, in commercial operation 100 cm
- c) 120 cm, in commercial operation 130 cm
- d) 110 cm, in commercial operation 110 cm

29. What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at FL125?

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

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30. 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.

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

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

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

- a) 1700 UTC.
- b) 1600 UTC
- c) 1500 UTC.
- d) 1400 UTC.

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

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

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



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

35. 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

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36. At which altitude is the atmospheric pressure approximately half the MSL value (1013 hPa)?

- a) 5000 ft
- b) 18000 ft
- c) 22000 ft
- d) 10000 ft

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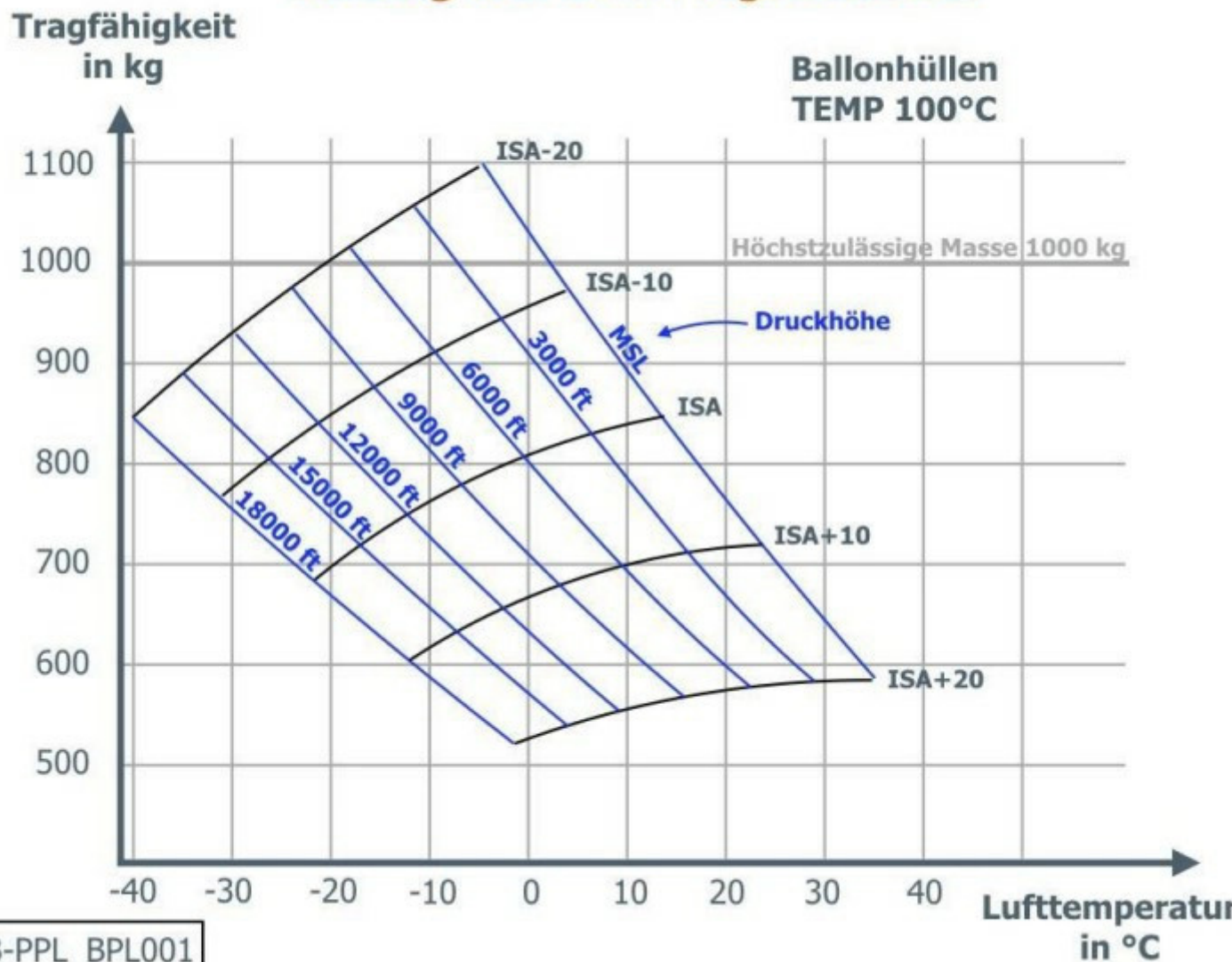
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37. Given the following masses: Empty mass 240 kg Instruments 20 kg per gas container (full): 30 kg per person: 80 kg U which pressure altitude can the balloon climb with 5 persons and 4 gas containers in the basket, assuming temperatures below ISA? (use attachment ECQB-PPL_BPL001) Siehe Anlage 1

Auszug aus dem Flughandbuch



- a) 3000 ft
- b) 17000 ft
- c) 13000 ft
- d) 7000 ft

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38. 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.

39. 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

40. Which distances to clouds have to be maintained during a VFR flight in airspaces C, D and E?

- a) 1000 m horizontally, 300 m vertically
- b) 1000 m horizontally, 1500 ft vertically
- c) 1500 m horizontally, 1000 m vertically
- d) 1500 m horizontally, 1000 ft vertically

41. Which statement is correct with regard to the short-term memory?

- a) It can store 5 (± 2) items for 1 to 2 minutes
- b) It can store 3 (± 1) items for 5 to 10 seconds
- c) It can store 7 (± 2) items for 10 to 20 seconds
- d) It can store 10 (± 5) items for 30 to 60 seconds

42. The shown NOTAM is valid until... A) 1024/13 B) LOWW C) 1305211200 D) 1305211400 E) STOCKERAU VOR STO 113.00 UNSERVICEABLE.

- a) 21/05/2014 13:00 UTC.
- b) 13/05/2013 12:00 UTC.
- c) 13/10/2013 00:00 UTC.
- d) 13/10/2013 00:00 UTC.

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43. The majority of aviation accidents are caused by...

- a) Human failure
- b) Technical failure
- c) Geographical influences.
- d) Meteorological influences.

44. The boiling point of propane gas at atmospheric conditions is:

- a) .+ 5 °C
- b) .- 42 °C
- c) .- 23 °C
- d) 0 °C

45. What clouds and weather can typically be observed during the passage of a cold front?

- a) Strongly developed cumulus clouds (Cb) with showers of rain and thunderstorms, gusting wind followed by cumulus clouds with isolated showers of rain
- b) Wind becoming calm, dissipation of clouds and warming during summer; formation of extended high fog layers during winter
- c) Cirrus, thickening altostratus and altocumulus clouds, lowering cloud base with rain, nimbostratus
- d) In coastal areas during daytime wind from the coast and forming of cumulus clouds, dissipation of clouds during evening and night

46. Under which conditions false readouts are possible on hull thermometers using radio communication from sensor to indicator panel?

- a) When radio messages are received
- b) When the sensor battery is almost empty
- c) When the hull temperature exceeds 110 °C
- d) When there is no intervisibility to temperature sensor

47. Which of the human senses is most influenced by hypoxia?

- a) The tactile perception (sense of touch)
- b) The olfactory perception (smell)
- c) The visual perception (vision)
- d) The auditory perception (hearing)

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48. What is the relationship between pressure and volume of a dry gas at constant temperature?

- a) The volume increases proportional with pressure
- b) The volume increases by a factor of 4 with double pressure
- c) The ration between pressure and volume is constant
- d) The volume is inversely proportional to pressure

49. 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) More than 300 NM.
- b) Less than 300 NM.
- c) Less than 600 NM.
- d) More than 600 NM

50. 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) Tthe angle between magnetic north and the course line.
- d) The direction from an arbitrary point on Earth to the magnetic north pole.

51. What is the percentage of nitrogen in the atmosphere?

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

52. During a balloon ride, visibility continiously becomes poorer, also cloud base decreases in direction of the current track. How should the balloon pilot react to this situation?

- a) Continue ride in ramaining altitude
- b) Use GPS or radio navigation to continue ride in clouds
- c) Use next best chance for landing
- d) Break through the clouds and continue above clouds

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53. At temperature below 0 °C the pressure at the burner is at 0,2 MPa (2 bar). Is take-off permissible with the hot air balloon?

- a) No, pressure at burner is too low
- b) Only with double-burner system installed
- c) Yes, at low temperatures a low hull temperature is sufficient
- d) Yes, not a problem

54. 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

55. 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

56. During a flight, a flight plan can be filed at the...

- a) Search and Rescue Service (SAR).
- b) Next airport operator en-route.
- c) Flight Information Service (FIS).
- d) Aeronautical Information Service (AIS)

57. What is an indication for a macho attitude?

- a) Quick resignation in complex and critical situations
- b) Comprehensive risk assessment when faced with unfamiliar situations
- c) Careful walkaround procedure
- d) Risky flight maneuvers to impress spectators on ground

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58. What information is provided in the general part (GEN) of the AIP?

- a) What information is provided in the general part (GEN) of the AIP?
- b) Map icons, list of radio nav aids, time for sunrise and sunset, airport fees, air traffic control fees
- c) Table of content, classification of airfields with corresponding maps, approach charts, taxi charts, restricted and dangerous airspaces
- d) Access restrictions for airfields, passenger controls, requirements for pilots, license samples and validity periods

59. What process results in the formation of "advection fog"?

- a) Warm, moist air is moved across cold ground areas
- b) Cold, moist air is being moved across warm ground areas
- c) Prolonged radiation during nights clear of clouds
- d) Cold, moist air mixes with warm, moist air

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

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

61. 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?

- a) 60 NM
- b) 216 NM
- c) 400 NM
- d) 120 NM

62. Under what conditions may class D airspace be entered with a radio failure?

- a) It is the destination aerodrome
- b) Approval has been granted before
- c) It is the aerodrome of departure
- d) There are other aircraft in the aerodrome circuit

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63. What information can be obtained from satellite images?

- a) Flight visibility, ground visibility, and ground contact
- b) Overview of cloud covers and front lines
- c) Turbulence and icing
- d) Temperature and dew point of environmental air

64. During setup of a hot-air balloon, the hull is damaged with a hole with a size of 1.50 m x 1.00 m. Is Take-Off permitted?

- a) Yes, if all passengers agree.
- b) Yes, if permitted by the operating handbook.
- c) No, the hull has to be repaired first.
- d) Yes, if loading is reduced.

65. Information about operational limits, loading and performance about an aircraft can be taken from which document?

- a) Airworthiness certificate.
- b) Operating handbook.
- c) Certificate of registration
- d) Flight Log book.

66. What change of wind direction can be expected during the passage of a polar front low in Central Europe?

- a) Backing wind during passage of the warm front, veering wind during passage of the cold front
- b) Backing wind during passage of the warm front, backing wind during passage of the cold front
- c) Veering wind during passage of the warm front, backing wind during passage of the cold front
- d) Veering wind during passage of the warm front, veering wind during passage of the cold front

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

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

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68. 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

69. What is meant by the term "terrestrial navigation"?

- a) Orientation by instrument readings during visual flight
- b) Orientation by ground features during visual flight
- c) Orientation by GPS during visual flight
- d) Orientation by ground celestial object during visual flight

70. Given: TC: 183°; WCA: +011°; MH: 198°; CH: 200° What are TH and VAR? (2,00 P.)

- a) TH: 172°. VAR: 004° E
- b) TH: 194°. VAR: 004° E
- c) TH: 172°. VAR: 004° W
- d) TH: 194°. VAR: 004° W

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Response Scheme

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

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