

# Exam simulation

PPL(H) - Private Pilot License - Human Performance and limitations



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STUDENT NAME:

DATE AND TIME:

## 01. What must be considered for cross-border flights?

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- a) Regular location messages
- b) Approved exceptions
- c) Transmission of hazard reports
- d) Requires flight plans

## 02. What is the correct way of establishing radio communication between D-EAZF and Dusseldorf Tower?

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- a) DEAZF is calling Dusseldorf Tower
- b) Dusseldorf Tower over
- c) Dusseldorf Tower D-EAZF
- d) Tower from D-EAZF

## 03. Leaving a control frequency (except when reaching the final parking position)...

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- a) Must be approved
- b) Is not mandatory to be reported
- c) Must be reported
- d) Must be approved twice

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

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

## 05. After take-off an aeroplane gets into a wind shear with decreasing headwind. As a result...

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- a) The aeroplane flies below the estimated climb path.
- b) The aeroplane flies above the estimated climb path.
- c) The ground speed (GS) will decrease.
- d) The true airspeed (TAS) will increase.

# Exam simulation

PPL(H) - Private Pilot License - Human Performance and limitations



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## 06. What needs to be observed in conjunction with flying above mountainous terrain?

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- a) Unexpected changes in weather and turbulence
- b) Unexpected overspeed faults and vibrations
- c) Carburettor icing in piston engines
- d) Icing conditions over the predicted freezing level

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

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

## 08. The term "FATO" is defined as...

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- a) A treaty between federal organizations.
- b) An area for final approach and take-off for helicopters.
- c) A noise abatement procedure for VFR traffic.
- d) A missed approach procedure for essential traffic.

## 09. Visual illusions are mostly caused by...

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

## 10. Wake turbulence is particularly strong...

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

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## 11. What condition has to be met during a Special VFR flight?

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- a) Visual reference to the terrain
- b) A minimum distance to clouds of 2000 m
- c) At least 500 m ground visibility
- d) Speed not above 115 kt IAS

## 12. The on-board equipment of the secondary surveillance radar (SSR) is called...

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- a) Transponder
- b) Interrogator
- c) Decoder
- d) Course indicator

## 13. Which of the following frequencies is designated for VHF voice communication?

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- a) 120.50 MHz
- b) 115.15 MHz
- c) 117.30 kHz
- d) 108.80 MHz

## 14. The term "flight time" is defined as...

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- a) The period from engine start for the purpose of taking off to leaving the aircraft after engine shutdown.
- b) The total time from the first take-off until the last landing in conjunction with one or more consecutive flights.
- c) The period from the start of the take-off run to the final touchdown when landing.
- d) The total time from the first aircraft movement until the moment it finally comes to rest at the end of the flight.

## 15. When do you expect wind shear?

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- a) When passing a warm front
- b) During a summer day with calm winds
- c) During an inversion
- d) In calm wind in cold weather

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**16. What cloud type can typically be observed across widespread high pressure areas during summer?**

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- a) Overcast low stratus
- b) Squall lines and thunderstorms
- c) Scattered Cu clouds
- d) Overcast Ns clouds

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

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

**18. Given: Calibrated airspeed (CAS): 155 kt. Flight level (FL) 80. Outside air temperature (OAT): +15° C. The true airspeed (TAS) equals...**

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- a) 180 kts.
- b) 170 kts.
- c) 155 kts.
- d) 134 kts.

**19. What should be considered regarding a scheduled flight over water, when land cannot be reached in case of an emergency landing?**

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- a) The flight plan has to contain the exact waypoints
- b) Contact to the nearest ATC shall consist during the whole flight
- c) Transponder code 7600 has to be set during the whole flight
- d) For all passengers there must be life jackets or lifeboats present

**20. Given: True course: 165°. TAS: 90 kt. Wind: 130°/20 kt. Distance: 153 NM. The true heading equals...**

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- a) 165°.
- b) 126°.
- c) 152°.
- d) 158°.

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**21. Weather and operational information about the destination aerodrome can be obtained during the flight by...**

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- a) VOLMET
- b) SIGMET.
- c) ATIS.
- d) PIREP.

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

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

**23. What is shown on the printed sign? See figure (ALW-020)**

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- a) From this intersection the available runway length is 2500 m in the stated direction
- b) 2500 m in the stated direction till reaching the departure point of the runway
- c) 2500 m in the stated direction till reaching the parking area
- d) The complete length of the runway in the stated direction is 2500 m

**24. The VFR semicircular rules are based on the...**

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- a) Magnetic course (MC).
- b) True heading (TH).
- c) True course (TC).
- d) Magnetic heading (MH).

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## 25. What is the meaning of the phrase "Approved"?

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

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

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

## 27. An altitude of 4500 ft is transmitted as...

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

## 28. What needs to be done to compensate a tail-heavy centre of gravity in a helicopter?

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- a) Remove all unnecessary attachment parts and covers
- b) Remove unneeded equipment from the cockpit
- c) Add additional fuel to the fuel tank behind the main rotor mast
- d) Add additional load in the front of the helicopter cabin

## 29. Why does the VNE decrease with increasing pressure altitude?

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- a) The groundspeed (GS) decreases
- b) The rotor thrust exceeds the permissible structure limitations
- c) The true airspeed (TAS) increases
- d) The tail rotor effectiveness does not provide directional stability

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## 30. Which is the colour of runway end lights?

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- a) White
- b) Red
- c) Blue
- d) Green

## 31. A flight plan has been filed for a flight departing at an uncontrolled aerodrome. When has the actual take-off time been transmitted to ATC?

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- a) At deviation from expected off-block time by more than 15 min.
- b) Immediately after take-off.
- c) When landing is assured.
- d) Upon request from ATC.

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

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

## 33. Which dangerous situation could arise when the helicopter engine is started in strong tailwind conditions?

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- a) Decompression sickness
- b) Carbon monoxide poisoning
- c) Binocular vision
- d) Rotary vertigo

## 34. Which optical illusion might be caused by a runway with an upslope during the approach?

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- a) The pilot has the feeling that the approach is too high and therefore descends below the regular glide slope
- b) The pilot has the feeling that the approach is too low and therefore approaches the runway above the regular glide slope
- c) The pilot has the feeling that the approach is too slow and speeds up above the normal approach speed
- d) The pilot has the feeling that the approach is too fast and reduces the speed below the normal approach speed

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## 35. The balance arm is the horizontal distance between...

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- a) The C.G. of a mass and the datum line.
- b) The C.G. of a mass and the rear C.G. limit.
- c) The front C.G. limit and the datum line.
- d) The front C.G. limit and the rear C.G. limit.

## 36. What can be expected for the prevailing wind with isobars on a surface weather chart showing large distances?

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- a) Strong pressure gradients resulting in strong prevailing wind
- b) Strong pressure gradients resulting in low prevailing wind
- c) Low pressure gradients resulting in strong prevailing wind
- d) Low pressure gradients resulting in low prevailing wind

## 37. What chart shows areas of precipitation?

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- a) Radar picture
- b) Satellite picture
- c) GAFOR
- d) Wind chart

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

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

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

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

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**40. 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...**

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- a) 1330 UTC
- b) 1430 UTC
- c) 1356 UTC
- d) 1320 UTC

**41. What is the percentage of nitrogen in the atmosphere?**

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

**42. Which process may result in an inversion layer at about 5000 ft (1500 m) height?**

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- a) Widespread descending air within a high pressure area
- b) Intensive sunlight insolation during a warm summer day
- c) Ground cooling by radiation during the night
- d) Advection of cool air in the upper troposphere

**43. What is a tubular steel construction with a non self-supporting skin called?**

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- a) Grid construction
- b) Honeycomb structure
- c) Monocoque construction
- d) Semi-monocoque construction

**44. What does a cloud coverage of "BKN" mean in a METAR weather report?**

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- a) 3 to 4 eighths
- b) 1 to 2 eighths
- c) 8 eighths
- d) 5 to 7 eighths

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PPL(H) - Private Pilot License - Human Performance and limitations

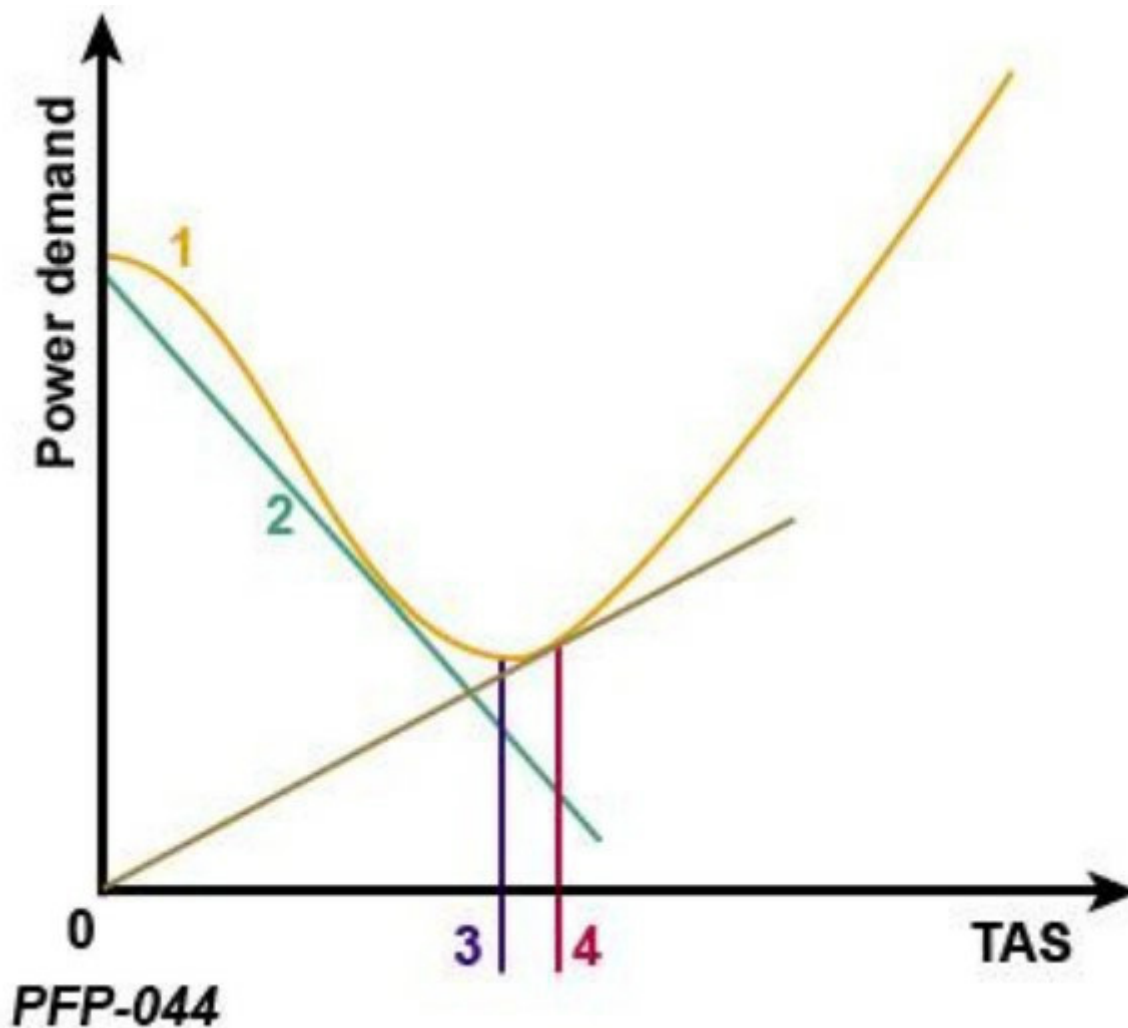


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45. Which area is suitable for an off-field landing?

- a) Glade with long dry grass
- b) Sports area in a village
- c) Harvested cornfield
- d) Plowed field

46. Which point indicates the speed for maximum range? See figure (PFP-044)



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

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**47. A heading of 285 degrees is correctly transmitted as...**

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- a) Two eight five.
- b) Two hundred eight five
- c) Two hundred eighty-five.
- d) Two eight five hundred.

**48. The angle between the true course and the true heading is called...**

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

**49. A precautionary landing is a landing...**

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- a) Conducted in response to circumstances forcing the aircraft to land.
- b) Conducted with the flaps retracted.
- c) Conducted in an attempt to sustain flight safety.
- d) Conducted without power from the engine.

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

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- a) 1600 UTC
- b) 1500 UTC.
- c) 1800 UTC.
- d) 1700 UTC.

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

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

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PPL(H) - Private Pilot License - Human Performance and limitations



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**52. A helicopter with a rotor turning in an anti-clockwise direction seen from above, hovers sideways to the right. What is the azimuth angle where the main rotor blades have the biggest pitch angle?**

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- a) 270°
- b) 180°
- c) 90°
- d) 0°

**53. What temperatures are most dangerous with respect to airframe icing?**

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- a) 0° to -12° C
- b) +20° to -5° C
- c) +5° to -10° C
- d) -20° to -40° C

**54. What needs to be observed in conjunction with a flight on a hot day?**

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- a) Thermal updraft should be used over uninhabited areas
- b) Low density of the provided fuel should be observed during refueling
- c) Outside air temperature and pressure altitude should be considered in particular
- d) Air-fuel mixture in the climb and cruise should be fully enriched

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

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

**56. What is the meaning of the abbreviation "AIREP"?**

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- a) Aircraft report
- b) Aeronautical information report
- c) Aeronautical instrument requirement report
- d) Automatic identification report

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PPL(H) - Private Pilot License - Human Performance and limitations



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**57. VOR radials are defined based on the principle of...**

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- a) Amplitude comparison of two signals.
- b) Pulse comparison of two signals.
- c) Phase comparison of two signals.
- d) Frequency comparison of two signals.

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

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

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PPL(H) - Private Pilot License - Human Performance and limitations



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59. What cloud type does the picture show? See figure (MET-004).



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

60. Which gas is most dangerous during an engine fire?

- a) Nitrogen
- b) Carbon monoxide
- c) Carbon dioxide
- d) Oxygen

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PPL(H) - Private Pilot License - Human Performance and limitations



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## 61. The advance angle is the angle between the...

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- a) Advancing rotor blade and retreating rotor blade.
- b) Fixed control rod and lower scissors.
- c) Circumferential control rod and rotor blade longitudinal axis.
- d) Delta-three-flapping hinge and rotor blade longitudinal axis.

## 62. During hover flight, the induced airflow velocity...

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- a) Is equal above and below the rotor
- b) Increases further having passed the rotor
- c) Remains constant after having passed the rotor
- d) Decreases after having passed the rotor

## 63. When transmitter and receiver are moving towards each other...

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- a) The perceived frequency equals the transmitted frequency.
- b) The perceived frequency decreases.
- c) The perceived frequency increases.
- d) The frequency varies, but the wavelength remains constant.

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PPL(H) - Private Pilot License - Human Performance and limitations



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64. According to the aeronautical chart, Friesach/Hirt (LOKH) has a 707 m grass runway. Prevailing runway is 17 due to a surface wind of 18010KT. The required landing distance for your aircraft under present conditions is 550 m. Considering the NOTAM below, is it safe to plan LOKH as an alternate aerodrome? See figure (PFP-026)

B1066/11 NOTAMR B0680/11

Q)

LOVV/QMRCM/IV/NBO/A/000/999/4656N01426E005

E) THRESHHOLD RWY17 DISPLACED 207M INWARDS

DUE TO HIGH TREES 300M N OF RWY 17.

LANDING DISTANCE AVAILABLE (LDA) 500M.

TAKE-OFF RUN AVAILABLE (TORA) RWY 17/35

AND LANDING DISTANCE AVAILABLE (LDA)

RWY 35 707M.

MARKINGS ARE INSTALLED AT BOTH EDGES OF THE

RUNWAY ACCORDING ZFV.

- a) No.
- b) Yes.
- c) Don't know.
- d) Maybe.

65. The power output of a piston engine is limited by...

- a) Exhaust system.
- b) Main rotor gearbox.
- c) Crankcase.
- d) Centrifugal clutch.

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## 66. Which weather phenomenon is typically associated with wind shear?

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

## 67. The density of AVGAS 100LL at 15° C is...

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- a) 1.0 kg/l
- b) 0.72 kg/l
- c) 0.82 kg/l
- d) 0.68 kg/l

## 68. Why is a helicopter's climb initially accelerated after an increase of the pitch angle?

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- a) The larger pitch angle causes a decrease and a compression of the airflow until the climb rate corresponds to the induced velocity through the main rotor disc
- b) The inertia of the air increases the effective angle of attack temporarily until an additional component of the climb rate reduces the effective angle of attack again
- c) The initially high airflow increases the rotor thrust until the lower air density reduces the rotor thrust again
- d) The conversion of energetic air into kinetic rotor energy decreases continuously with increasing density altitude

## 69. Distress messages are messages...

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

## 70. Radio waves within the LF and MF range (e.g. NDB) travel as...

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- a) Space wave (quasi-optical)
- b) Sky wave and as ground / surface wave.
- c) Sky wave.
- d) Ground / surface wave.

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## Response Scheme

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

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

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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: _____		