

# PRACTICE EXAM 19

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1. A Recreational Pilot certificate may be issued to an applicant who is at least what age?
  - A. 17 years
  - B. 15 years
  - C. 16 years
  - D. 18 years
  
2. A wing exceeding its critical angle of attack will do what, regardless of airspeed?
  - A. Continue producing maximum lift
  - B. Increase its lift indefinitely
  - C. Stall as airflow separates from the upper surface
  - D. Reduce drag to zero
  
3. A flight leg is 100 nautical miles at a groundspeed of 100 knots. How long does it take?
  - A. 30 minutes
  - B. 45 minutes
  - C. 60 minutes
  - D. 90 minutes
  
4. In Class C, D, or E airspace below 10,000 feet MSL, the day VFR cloud clearance is which of the following?
  - A. Clear of clouds
  - B. 1,000 below, 1,000 above, 1 mile horizontal

- C. 500 below, 500 above, 1,000 horizontal
- D. 500 below, 1,000 above, 2,000 horizontal

5. A pilot facing schedule pressure thinks, "I can make it before the weather closes in." Which hazardous attitude is this?

- A. Macho
- B. Resignation
- C. Anti-authority
- D. Impulsivity

6. Carburetor ice is most likely to form under which conditions?

- A. Very cold, dry air far below freezing
- B. Hot, dry air with a large temperature spread
- C. High humidity with temperatures around 50 to 70°F
- D. Clear skies with very low humidity

7. The minimum safe altitude over a congested area is which of the following?

- A. 500 feet above the surface
- B. 2,000 feet above the surface
- C. 1,000 feet above the highest obstacle within a 2,000-foot radius
- D. 700 feet above the highest obstacle

8. On a METAR, the ceiling is defined as which cloud layer?

- A. The lowest broken or overcast layer
- B. The highest scattered layer

- C. Any few or scattered layer
- D. The average of all reported layers

9. A third-class medical issued to a pilot under age 40 is valid for these privileges for how long?

- A. 60 calendar-months
- B. 24 calendar-months
- C. 12 calendar-months
- D. 36 calendar-months

10. Wingtip vortices are strongest behind an aircraft that is which of the following?

- A. Light, fast, with flaps down
- B. Light, clean, at high speed
- C. Heavy, dirty, descending fast
- D. Heavy, clean, and slow

11. A pilot must convert 30 gallons of avgas to weight. Approximately how many pounds is this?

- A. 150 pounds
- B. 180 pounds
- C. 240 pounds
- D. 90 pounds

12. A Recreational Pilot may carry how many passengers without additional endorsement?

- A. Up to three
- B. As many as the aircraft seats

- C. No more than one
- D. None at all

13. A cold front is characterized by which of the following?

- A. A shallow slope and slow movement
- B. A steep slope, fast movement, and a narrow band of intense weather
- C. A broad area of layered clouds well ahead
- D. Persistent drizzle over many hours

14. A blocked pitot tube, with the drain also blocked, causes the airspeed indicator to do what?

- A. Behave like an altimeter, reading higher in a climb
- B. Drop immediately to zero
- C. Read accurately with a slight lag
- D. Freeze at the current value permanently

15. Without the cross-country endorsement, a Recreational Pilot is limited to what distance from the departure airport?

- A. 50 nautical miles
- B. 50 statute miles
- C. 25 nautical miles
- D. 100 nautical miles

16. The DECIDE model is best described as which of the following?

- A. A personal-fitness checklist
- B. A continuous decision-making loop

- C. A weather-briefing sequence
- D. A weight-and-balance method

17. One minute of latitude on a sectional chart equals what distance?

- A. One nautical mile
- B. One statute mile
- C. One kilometer
- D. Ten nautical miles

18. As bank angle increases in a level turn, load factor does what?

- A. Decreases steadily
- B. Remains at 1 G
- C. Becomes negative
- D. Increases, reaching about 2 G at 60°

19. Following an occurrence with substantial damage, the operator must do what regarding the NTSB?

- A. File a written report within 30 days only
- B. Notify the NTSB immediately by the most expeditious means
- C. Take no action unless the FAA requests it
- D. Notify the local police only

20. A small temperature-dewpoint spread most strongly indicates what?

- A. Strong, gusty winds
- B. Fog or low clouds

- C. Rapidly clearing skies
- D. High cloud bases

21. The primary recovery action for a stall is which of the following?

- A. Decrease the angle of attack by lowering the nose
- B. Increase back pressure to raise the nose
- C. Apply full opposite aileron
- D. Add power while holding the nose high

22. A pilot whose departure is 7 hours away should request which briefing?

- A. A standard briefing
- B. An outlook briefing
- C. An abbreviated briefing
- D. No briefing

23. Which airspace requires a controlled-airspace endorsement for a Recreational Pilot to enter?

- A. Class G near the surface
- B. Class E away from airports
- C. Class E below 10,000 feet en route
- D. Class D at a towered airport

24. A flight will take 2 hours en route at 9 gallons per hour, plus a 30-minute reserve. How much total fuel is required?

- A. 18.0 gallons
- B. 20.0 gallons

- C. 27.0 gallons
- D. 22.5 gallons

25. Density altitude is best defined as which of the following?

- A. The altitude shown when set to local pressure
- B. The height above the ground
- C. Pressure altitude corrected for nonstandard temperature
- D. The altitude at which icing begins

26. When two aircraft of the same category converge at the same altitude, which has the right of way?

- A. The faster aircraft
- B. The aircraft to the other's right
- C. The higher aircraft
- D. The larger aircraft

27. Magnetos differ from the rest of the electrical system because they do what?

- A. Require the battery to operate
- B. Generate their own current independently of the battery
- C. Are powered by the alternator
- D. Stop when the master switch is off

28. A Recreational Pilot with no logged PIC time in the preceding 180 days must do what?

- A. Retake the knowledge test
- B. Obtain a new medical

- C. Wait an additional 180 days
- D. Receive flight training and an endorsement from an instructor

29. A pilot thinking "It won't happen to me" exhibits which hazardous attitude?

- A. Invulnerability
- B. Macho
- C. Anti-authority
- D. Resignation

30. The standard sea-level pressure in the standard atmosphere is which value?

- A. 29.92 inches of mercury
- B. 30.00 inches of mercury
- C. 28.92 inches of mercury
- D. 31.00 inches of mercury

31. A runway numbered "36" is aligned approximately with which magnetic heading?

- A. 036 degrees
- B. 300 degrees
- C. 360 degrees
- D. 060 degrees

32. Hypoxia is particularly dangerous because it does what?

- A. Produces immediate severe pain
- B. Impairs the judgment needed to recognize it

- C. Affects only pilots above 18,000 feet
- D. Causes the engine to lose power

33. A center of gravity loaded aft of the limit is most dangerous because it can do what?

- A. Increase elevator forces excessively
- B. Raise the stall speed significantly
- C. Make stall or spin recovery difficult or impossible
- D. Reduce cruise speed and increase fuel burn

34. A Convective SIGMET specifically warns of what?

- A. Moderate turbulence for light aircraft
- B. Sustained surface winds of 30 knots
- C. Severe or embedded thunderstorms
- D. Mountain obscuration

35. For day VFR flight, the fuel reserve required beyond the first intended landing point is what?

- A. 30 minutes at cruise
- B. 45 minutes at cruise
- C. 60 minutes at cruise
- D. 15 minutes at cruise

36. Stable air, when lifted, produces which type of weather?

- A. Towering cumulus and showers
- B. Stratiform clouds, steady precipitation, and smooth air

- C. Severe turbulence and good visibility
- D. Strong vertical currents

37. A Recreational Pilot may operate an aircraft with a maximum of how much engine horsepower?

- A. 180 horsepower
- B. 200 horsepower
- C. 150 horsepower
- D. 160 horsepower

38. The ailerons move the airplane about which axis?

- A. The lateral axis
- B. The vertical axis
- C. The longitudinal axis
- D. No single axis

39. A pilot using the PAVE checklist reviews which set of factors?

- A. Illness, Medication, Stress, Alcohol
- B. Pilot, Aircraft, enVironment, External pressures
- C. Detect, Estimate, Choose, Identify
- D. True, Variation, Magnetic, Deviation

40. The recommended traffic-pattern entry at a non-towered airport is which of the following?

- A. A straight-in approach
- B. An overhead descent

- C. A base-leg entry from any direction
- D. A 45° entry to the downwind at pattern altitude

41. A lowering ceiling and reducing visibility, encountered by a daytime-VFR Recreational Pilot, calls for what decision?

- A. Turn back or divert before conditions deteriorate further
- B. Climb through the cloud layer
- C. Descend to remain visual at very low altitude
- D. Request an IFR clearance

42. Which document explains recommended procedures for pattern entry and ATC communication?

- A. The Federal Aviation Regulations
- B. The Pilot's Operating Handbook
- C. The Chart Supplement
- D. The Aeronautical Information Manual

43. A 45-nautical-mile leg is flown at a groundspeed of 90 knots. How long does it take?

- A. 45 minutes
- B. 20 minutes
- C. 30 minutes
- D. 60 minutes

44. A Recreational Pilot may share flight costs with a passenger only under what condition?

- A. The pilot may keep a small profit
- B. Full reimbursement is allowed

- C. Only a pro-rata share of direct operating costs
- D. Any agreed arrangement is permitted

45. A temperature inversion is a layer in which what occurs?

- A. Temperature decreases sharply with altitude
- B. Winds are strongest near the surface
- C. Pressure rises rapidly with height
- D. Warmer air lies above cooler air, trapping moisture and haze

46. Best angle of climb ( $V_x$ ) provides what benefit?

- A. The fastest altitude gain over time
- B. The lowest fuel burn in cruise
- C. The smoothest ride in turbulence
- D. The greatest altitude gain over the shortest horizontal distance

47. A satisfactorily completed knowledge test remains valid for how long?

- A. 12 calendar-months
- B. 24 calendar-months
- C. 36 calendar-months
- D. Indefinitely

48. Spatial disorientation is a hazard primarily because of what?

- A. The engine instruments fail in cloud
- B. The balance senses produce false sensations without a visible horizon

- C. The compass stops working without sunlight
- D. The ailerons reverse in low visibility

49. An aircraft in distress has what right-of-way status?

- A. It must yield to all powered aircraft
- B. It shares equal priority with converging traffic
- C. It has right of way only over balloons
- D. It has the right of way over all other traffic

50. The leading cause of fatal general aviation accidents is generally attributed to what?

- A. Catastrophic engine failures
- B. Air traffic control errors
- C. Manufacturing defects
- D. Pilot judgment and decision-making errors

## Answer Key & Explanations

1. A — A Recreational Pilot certificate may be issued to an applicant at least 17 years old, even though the knowledge test may be taken at 15. The age floor reflects the pilot-in-command authority granted.

2. C — A wing exceeding its critical angle of attack stalls as airflow separates from the upper surface, regardless of airspeed. This is why a stall is about angle, not speed.

3. C —  $\text{Time} = 100 \text{ NM} \div 100 \text{ kt} = 1.0 \text{ hour} = 60 \text{ minutes}$ . Equal distance and speed give exactly one hour.

4. D — In Class C, D, or E below 10,000 feet MSL, the day VFR cloud clearance is 500 below, 1,000 above, and 2,000 horizontal. This is paired with 3 statute miles visibility.

5. A — "I can make it before the weather closes in" reflects the macho attitude, the urge to prove oneself by taking a risk. Its antidote is "Taking chances is foolish."
6. C — Carburetor ice is most likely in high humidity at temperatures around 50–70°F, because vaporization can cool the carburetor below freezing even on a warm day. Carburetor heat is the remedy.
7. C — Over a congested area, the minimum safe altitude is 1,000 feet above the highest obstacle within a 2,000-foot horizontal radius. This protects people below and allows a safe glide.
8. A — A ceiling is the lowest broken or overcast layer, or vertical visibility into an obscuration. Few and scattered layers do not constitute a ceiling.
9. A — A third-class medical for a pilot under 40 is valid for 60 calendar-months for these privileges. The 24-month duration applies at age 40 and older.
10. D — Wingtip vortices are strongest behind an aircraft that is heavy, clean, and slow, the configuration producing the most lift-induced vorticity. The defense is to stay above and upwind of its path.
11. B — Avgas weighs about 6 pounds per gallon, so  $30 \times 6 = 180$  pounds. Fuel must be converted to weight before computing moments.
12. C — A Recreational Pilot may carry no more than one passenger, regardless of the number of seats. This is an absolute cap.
13. B — A cold front has a steep slope, moves fast, and produces a narrow band of intense weather followed by rapid clearing. A warm front, by contrast, is shallow and slow.
14. A — With both the pitot inlet and drain blocked, trapped pressure makes the airspeed indicator behave like an altimeter, reading higher in a climb. This produces dangerously misleading airspeed.

15. A — Without the cross-country endorsement, the Recreational Pilot is limited to 50 nautical miles from the departure airport. The limit is nautical, not statute, miles.

16. B — The DECIDE model is a continuous decision-making loop — Detect, Estimate, Choose, Identify, Do, Evaluate. IMSAFE and PAVE are checklists, not loops.

17. A — One minute of latitude equals one nautical mile, allowing distance to be stepped off along the chart's side scale. This is the basis of chart distance measurement.

18. D — Load factor increases with bank angle, reaching about 2 G at a 60° bank, independent of weight. Beyond 45° the rise becomes steep.

19. B — Substantial damage makes the occurrence a reportable accident, requiring immediate NTSB notification by the most expeditious means. A written report within 10 days follows separately.

20. B — A small temperature-dewpoint spread means the air is near saturation, indicating likely fog or low clouds. Watching the spread close warns of reducing visibility.

21. A — The primary stall recovery is to decrease the angle of attack by lowering the nose, which reattaches the airflow. Raising the nose deepens the stall.

22. B — An outlook briefing is appropriate when departure is six or more hours away, providing forecast information. A standard briefing applies when no prior information exists.

23. D — Class D airspace at a towered airport requires two-way communication with ATC, which a Recreational Pilot may establish only with the controlled-airspace endorsement. Class E and G near non-towered fields do not require it.

24. D — Fuel =  $(2 \text{ hr} \times 9 \text{ gph}) + (0.5 \text{ hr} \times 9 \text{ gph}) = 18 + 4.5 = 22.5$  gallons. The 30-minute reserve adds 4.5 gallons.

25. C — Density altitude is pressure altitude corrected for nonstandard temperature — the altitude at which the airplane performs. High density altitude degrades performance.

26. B — When same-category aircraft converge at the same altitude, the aircraft to the other's right has the right of way. The other must yield.

27. B — Magnetos are engine-driven and generate their own current independently of the battery. This is why the engine keeps running through a complete electrical failure.

28. D — The Recreational-specific 180-day PIC recency rule requires instructor training and an endorsement after 180 days without logged PIC time. A current flight review does not satisfy this separate rule.

29. A — "It won't happen to me" is the invulnerability attitude, the belief that accidents happen only to others. Its antidote is "It could happen to me."

30. A — Standard sea-level pressure in the standard atmosphere is 29.92 inches of mercury at 15°C. This is the reference baseline for altimetry and performance.

31. C — A runway numbered "36" is aligned approximately with magnetic heading 360 degrees, since the number is the heading with the last digit dropped. Thus "36" means 360°.

32. B — Hypoxia is especially dangerous because it impairs the judgment needed to recognize it, often producing euphoria. The pilot may feel fine while performance degrades.

33. C — An aft CG beyond limits reduces stability and may leave insufficient elevator authority to lower the nose, making stall or spin recovery difficult or impossible. This is the most dangerous loading error.

34. C — A Convective SIGMET warns of severe thunderstorms, embedded thunderstorms, or lines of thunderstorms affecting all aircraft. It is among the most serious advisories a VFR pilot can encounter.

35. A — For day VFR, the required reserve is enough to fly 30 minutes at cruise beyond the first intended landing point. Night VFR requires 45 minutes, but a Recreational Pilot flies only by day.

36. B — Stable air resists vertical motion, so when lifted it produces stratiform clouds, steady precipitation, and smooth air, often with haze. Unstable air produces cumuliform clouds and turbulence.

37. A — A Recreational Pilot may operate an aircraft with no more than 180 horsepower. Higher-horsepower aircraft are outside the certificate.

38. C — The ailerons move the airplane about the longitudinal axis, producing roll. The elevator and rudder act about the lateral and vertical axes.

39. B — The PAVE checklist reviews Pilot, Aircraft, enVironment, and External pressures to identify risk. IMSAFE assesses fitness and DECIDE is the decision loop.

40. D — The recommended non-towered pattern entry is a 45° entry to the downwind at pattern altitude, allowing smooth merging while scanning. Straight-in and overhead descents are not the recommended standard.

41. A — A daytime-VFR Recreational Pilot facing a lowering ceiling and reducing visibility must turn back or divert before conditions trap the flight. Continuing into instrument conditions is a leading cause of fatal accidents.

42. D — The Aeronautical Information Manual explains recommended procedures such as pattern entry and ATC communication. The FARs state legal requirements, not procedures.

43. C —  $\text{Time} = 45 \text{ NM} \div 90 \text{ kt} = 0.5 \text{ hour} = 30 \text{ minutes}$ . The leg takes half an hour.

44. C — A Recreational Pilot may share only a pro-rata portion of the direct operating costs with a passenger. Profit or full reimbursement would be flying for compensation, which is prohibited.

45. D — A temperature inversion is a layer in which warmer air lies above cooler air, trapping moisture, smoke, and haze beneath it. It is associated with stable air and poor visibility.
46. D — Best angle of climb ( $V_x$ ) gives the greatest altitude gain over the shortest horizontal distance, which clears an obstacle. Best rate of climb ( $V_y$ ) gains altitude fastest in time.
47. B — A passed knowledge test remains valid for 24 calendar-months; the practical test must be completed within that window. Otherwise the knowledge test must be retaken.
48. B — Without a visible horizon, the body's balance senses can produce powerful but false sensations of attitude, causing spatial disorientation. The VFR defense is to keep the horizon in sight.
49. D — An aircraft in distress has the right of way over all other traffic. Distress is the top priority in the right-of-way hierarchy.
50. D — Pilot judgment and decision-making errors are the leading cause of fatal general aviation accidents. Mechanical, ATC, and manufacturing causes are far less frequent.