**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Class \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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1. **Professional skills, which apply in a workplace environment, are also known as \_\_\_\_\_\_\_\_\_\_.**
2. teachable skills
3. technical skills
4. hard skills
5. soft skills
6. **Which statement about electric aircraft is true?**
   1. They require air to produce power.
   2. They are easier to maintain because their motors have fewer moving parts.
   3. They emit the same kind of pollutants as combustion engines.
   4. They have batteries that are fast and easy to recharge.
7. **Which organization is directly responsible for the safety of civil aviation in the United States?**
   1. Department of Homeland Security
   2. Federal Aviation Administration
   3. Department of Transportation
   4. United States Air Force
8. **Earning a position as an airline pilot requires more flight time than the FAA certification minimums to earn a commercial pilot certificate. In order to gain the necessary experience, many pilots \_\_\_\_\_\_\_\_\_\_.**
   1. work as flight instructors
   2. become aircraft mechanics
   3. pay extra fees to waive the required hours
   4. build time exclusively on flight simulators
9. **How does the FAA play a role in commercial space travel?**
   1. Funds missions to space
   2. Maintains facilities in orbit for national defense
   3. Develops curriculum and training for astronauts
   4. Issues licenses for launches and space port operations
10. **Which of the following is NOT one of the three key factors that defines an aircraft accident?**
    1. Evidence of pilot error
    2. A person suffers death or serious injury
    3. The aircraft receives substantial damage
    4. An operation in which the people have boarded the aircraft with the intention of flight
11. **A mission statement is \_\_\_\_\_\_\_\_\_\_.**
    1. a short statement describing the purpose or vision of a person or organization
    2. a long list of goals describing the purpose or vision of a person or organization
    3. an in-depth statement describing your educational and work plan for the year
    4. a clear statement about your personal interests, hobbies, and core beliefs
12. **When the National Transportation Safety Board investigates an accident, at what stage of the investigation is the “Go Team” formed?**
    1. Notification and initial response
    2. On-scene activities
    3. Post on-scene activities
    4. Safety recommendation development
13. **Why do scientists think Mars is the most likely planet to be colonized?**
    1. Humans can breathe in the atmosphere without assistance.
    2. It has been verified that plants can grow in its soil.
    3. Oxygen can be generated from carbon dioxide in the air.
    4. The temperature during the day on Mars is similar to Earth’s in the summer.
14. **What is meant by visual meteorological conditions?** 
    1. Clear weather conditions during when the pilot can maintain separation from the terrain and other aircraft by examining the aircraft’s instruments.
    2. Cloudy weather conditions during when the pilot can fly solely by monitoring the aircraft’s instruments.
    3. Clear weather conditions that provide a pilot sufficient visibility to fly the aircraft by looking out the window.
    4. Weather conditions that allow a pilot to see enough to maintain separation by looking out the window, but occasionally fly through clouds.
15. **A Terminal Aerodrome Forecast issued by the National Weather Service reads:**

**KSFO 300528Z 3006/0112 17008KT P6SM SCT015 BKN040 OVC250**

**How fast is the wind moving at SFO airport according to this report?**

* 1. 8 knots
  2. 17 knots
  3. 30 knots
  4. 40 knots

1. **Each manned pilot certificate and rating requires that pilots pass \_\_\_\_\_\_\_\_\_\_.  Select all that apply.** 
   1. an English proficiency exam
   2. a written exam
   3. an oral exam
   4. a practical flying exam
   5. a hand-eye coordination screening
2. **Which factor presents a challenge to the integration of drones into the national airspace system?**
   1. Determining certification standards to ensure passenger safety requirements
   2. Having easy access to qualified drone mechanics
   3. Establishing medical standards for drone operators
   4. Ensuring that manned aircraft and unmanned aircraft are separated and don’t collide
3. **Which of the following is a benefit of participating in a work-based learning experience during college? Select all that apply.** 
   1. It provides you with a college degree.
   2. It provides real-life work experiences that are useful in a career.
   3. It provides an opportunity to build your resume with a new skill.
   4. It guarantees a full-time position at the end of the experience.
   5. It may help you determine that you are not interested in a certain field.
4. **What is the main role of an air traffic controller?** 
   1. Ensure that airport operations are run efficiently.
   2. Assist pilots in pre-flight planning.
   3. Coordinate the safe movement of aircraft.
   4. Inspect aircraft prior to takeoff.
5. **Aviation is the fastest-growing form of transportation. What impact does the industry have on the environment as a result of this growth?**
   1. Increase in pollutants that aircraft engines emit into the atmosphere
   2. Jet engines reduce the harmful impact of noise pollution
   3. Longer delays for airline passengers
   4. Less carbon dioxide is released into the air
6. **Shortly after an accident, investigators discovered the pilot was sick and received very little sleep in advance of the flight. Which NTSB Go Team specialty would focus on this fact as a possible contributing factor to the accident?**
   1. Operations
   2. Human performance
   3. Powerplants
   4. Systems
7. **An airframe mechanic is qualified to work and service \_\_\_\_\_\_\_\_\_\_.**
   1. aircraft systems such as flight controls
   2. engines and propellers
   3. communication radios
   4. a GPS navigation system

1. **Which of the following is NOT a type of air traffic controller?** 
   1. Tower controller
   2. Approach and departure controller
   3. Emergency response controller
   4. En route controller

1. **What is the mission of the Federal Aviation Administration (FAA)?**
   1. Create regulations for all modes of transportation
   2. Provide the safest and most efficient aerospace system
   3. Exclusively regulate commercial space travel and tourism
   4. Assist pilots in navigating the federal airspace
2. **Which of the following are duties and tasks of aerospace engineers? Select all that apply.** 
   1. Designing and building machines
   2. Planning and conducting pilot training
   3. Testing multiple prototypes
   4. Performing preventative maintenance
   5. Evaluating new aircraft designs
3. **Hurricane Hunters are critical to gathering important hurricane weather information because \_\_\_\_\_\_\_\_\_\_.**
   1. the aircraft fly over destroyed areas to determine what kind of damage has been done after the hurricane has passed
   2. studying hurricanes can help increase understanding about airframe limitations for small aircraft
   3. scientists want to gather more information to learn how to prevent and dissipate hurricanes in the future
   4. data collected by these airplanes help researchers better understand storm processes and improve forecast models
4. **A benefit to becoming a pilot through a college or university aviation program is \_\_\_\_\_\_\_\_\_\_.**
   1. the cost is relatively low compared to other degrees
   2. upon graduation, a student will be immediately qualified for a job with the airlines
   3. a student will earn a two- or four-year degree while learning how to fly
   4. classes and training will focus solely on aviation
5. **Which of the following is a challenge associated with autonomous aircraft?** 
   1. Reduces the number of jobs available for manned aircraft pilots
   2. Safety is negatively impacted due to potential computer operation errors
   3. Computer systems required to operate the aircraft weigh more than human crews
   4. Convincing consumers to fly in an aircraft without a pilot
6. **Why are weather forecasts important in aviation?**
   1. They inform pilots of potential hazards along their route of flight.
   2. They ensure pilots are prepared for any situation that may affect the safety of the flight.
   3. Weather reports aren’t available en route, so receiving all available weather information prior to departure is critical.
   4. They may help a pilot anticipate what other air traffic will do to avoid bad weather.
7. **Which of the following is the best example of a good mission statement?**
   1. I would like to gain employment as an Air Force pilot, but to get there, I’m working on getting my Private Pilot certificate, would like to get my instrument rating, would like to major in aerospace engineering in college, then enter into the Air Force after graduating.
   2. My mission is to gain employment as a rocket engine designer, and I will prepare by taking advanced STEM classes in high school and earning a degree in aerospace engineering. With sustained, focused study, I believe I can achieve my goals and contribute to technological advances that will benefit scientific discovery and space exploration.
   3. I’m interested in learning more about flying as a career and am taking more English classes and participating in sports after school. However, I want to be open to other career avenues.
   4. My mission is to create a drone photography business and I currently enjoy taking creative selfie pictures with my phone. I also like other aircraft like airplanes and helicopters.
8. **True or False. In order to colonize Mars, scientists must determine how to protect humans from severe radiation experienced on the surface of the Red Planet.**
9. **The Next Generation Air Transportation System (NextGen) will convert our current radar-based air traffic system to what type of technology?**
10. Beacons and directional arrows
11. Lasers
12. Geofencing

d. GPS

1. **Which of the following meet the NTSB’s definition of an aircraft accident?**
   1. A fuel truck drives across the airport ramp in foggy conditions and hits an unoccupied airplane.
   2. A small helicopter collides with power lines shortly after leaving the airport. The passengers survive but receive third-degree burns.
   3. While taxiing, an airplane runs over a taxiway light causing minor damage to the airplane.
   4. An airplane is parked in the hangar and a severe storm causes the roof to cave in.
2. **Human factors engineers \_\_\_\_\_\_\_\_\_\_.**
   1. design and test components of aircraft and spacecraft, such as wings
   2. design and test propulsion systems for aircraft and spacecraft
   3. design technology to maximize human behavior, well-being, and performance
   4. design guidance and navigation systems for all types of aircraft and spacecraft
3. **A collection of your accomplishments, skills, growth, and knowledge that represents your potential to an employer is known as a \_\_\_\_\_\_\_\_\_\_.**
   1. slogan
   2. career portfolio
   3. professional vision
   4. personal mission statement

1. **Why does the FAA require airplanes to stay miles apart in the sky?**
   1. Because airplanes are large and not very maneuverable
   2. Because pilots are not able to use the “see and avoid” method in inclement weather
   3. Even though radar is very precise, human error prevents closer operations
   4. Because the technology currently used to locate and separate air traffic is not very precise
2. **Which of the following is true about earning a commercial drone pilot certificate?**
   1. It takes the same amount of time to get a commercial drone pilot certificate as a manned pilot certificate.
   2. Certificate holders must retake the written exam every four years.
   3. The pilot must be at least 16 years old.
   4. Applicants must attend an FAA approved in-person course.

1. **How does the National Transportation Safety Board improve aviation safety?** 
   1. Certifies aircraft as airworthy
   2. Conducts aircraft accident investigations
   3. Develops regulations for aircraft maintenance and inspections
   4. Maintains the nation’s air traffic control network
   5. Enforces FAA regulations

1. **What is the difference between a trade school and a college or university?**
   1. A college or university provides specific training for a technical career.
   2. A trade school provides general education about a subject or discipline.
   3. A college or university generally provides a much more affordable career education path than a trade school.
   4. A trade school provides technical training in specific skills required for a particular job.
2. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a process that systematically identifies hazards, assesses the degree of risk, and determines the best course of action.**
   1. Risk management
   2. Randomized clinical trials
   3. Accident investigation
   4. Aviation safety

1. **Which of the following is true about the operation of geofencing? Select all that apply.**
   1. Barriers can be horizontal or vertical, similar to being in a room.
   2. It utilizes laser beams to create boundaries around the drone operating area.
   3. It can be used to keep drones out of specific areas.
   4. It creates an invisible line or barrier based on geographic coordinates.
   5. It allows the drone to scan for and avoid other aircraft in the area.

1. **How is the party system used by the NTSB during an accident investigation?**
2. Representatives from across the aviation industry receive reports on details about the accident.
3. Aviation enthusiasts gather to share stories about close calls they have had.
4. Experts will only focus on parts of the investigation to avoid being biased by another’s opinion.
5. External subject matter experts provide input that improves the accuracy and understanding of the investigation.

1. **True or False. An airline transport pilot certificate is required to fly for a scheduled commercial airline.**

1. **Aircraft that can complete all phases of flight without human intervention, including responding to inflight emergencies and avoiding other traffic, are considered \_\_\_\_\_\_\_\_\_\_.**
   1. automatic
   2. semi-autonomous
   3. fully autonomous
   4. robots
2. **To ensure your message conveys the information you want others to receive, remember that \_\_\_\_\_\_\_\_\_\_.**
   1. the listener will focus on your words, and your non-verbal cues are not as important
   2. you should adapt to the person with whom you are speaking and the situation at hand
   3. context is not an important element to consider when delivering your message
   4. emotions and feelings are insignificant when delivering a message to someone else
3. **The National Transportation Safety Board is responsible for \_\_\_\_\_\_\_\_\_\_.**
   1. investigating only airplane accidents
   2. ensuring that railroad, highway, and marine operations run on schedule
   3. enforcing punishments on operators that cause railroad, highway, marine, aviation, and pipeline accidents
   4. conducting accident investigations without the influence of any other government agency

1. **Which of the following would an employer consider a technical skill?**
   1. Being an effective member of a team
   2. Willingness to help with technology issues
   3. Knowing the steps to fix an engine problem
   4. Ability to communicate effectively

1. **What kind of tasks do aircraft mechanics perform? Select all that apply.**
   1. Design and test aircraft to be sure they function properly.
   2. Alert airport emergency services when aircraft are experiencing difficulties.
   3. Inspect aircraft to ensure they comply with FAA regulations.
   4. Diagnose electrical and mechanical problems.
   5. Document inspection and test results.

1. **Emissions from aircraft consist mostly (70%) of \_\_\_\_\_\_\_\_\_\_.**
   1. water vapor
   2. phosphorus
   3. carbon dioxide
   4. nitrogen
2. **Attending a trade school would be a good education choice in order to earn a job as \_\_\_\_\_\_\_\_\_\_.**
   1. a flight test engineer
   2. a corporate pilot
   3. a fighter pilot
   4. an aircraft mechanic

1. **True or False. Part of the mission of the NTSB is to determine the probable cause of an accident.**

1. **Good \_\_\_\_\_\_\_ skills include the ability to express ideas and views clearly, confidently, and concisely.** 
   1. organization
   2. technical
   3. management
   4. communication

1. **The National Weather Service’s (NWS) mission is to \_\_\_\_\_\_\_.** 
   1. provide forecasts, warnings, and data about weather, water, and the climate
   2. provide the FAA with flight plans based on air traffic delays and weather
   3. promote the economy by identifying the best tourist areas based on climate
   4. gather data about the weather to assist with accident investigations

1. **Which of the following is a regime of flight as it relates to an aircraft’s speed? Select all that apply.** 
   1. transonic
   2. subsonic
   3. speed of light
   4. supersonic
   5. mach