**NACA AIRFOIL QUIZ**

**1. What does "NACA" stand for in NACA airfoils?**

* A) National Aerodynamics and Computational Administration
* B) National Advisory Committee for Aeronautics
* C) National Aerospace Control Authority
* D) National Agency of Civil Aviation  
  **Answer: B) National Advisory Committee for Aeronautics**

**2. What is the primary purpose of NACA airfoils?**

* A) To design efficient rocket engines
* B) To improve water-based navigation
* C) To create optimized aircraft wing shapes
* D) To study atmospheric pressure changes  
  **Answer: C) To create optimized aircraft wing shapes**

**3. In a four-digit NACA airfoil code like "NACA 2412," what does the second digit represent?**

* A) Maximum camber as a percentage of chord
* B) Maximum thickness as a percentage of chord
* C) Maximum camber position
* D) Leading edge radius  
  **Answer: C) Maximum camber position**

**4. In a four-digit NACA airfoil, what does the last two digits represent?**

* A) Camber position
* B) Wingspan
* C) Maximum thickness as a percentage of the chord
* D) Wing angle of attack  
  **Answer: C) Maximum thickness as a percentage of the chord**

**5. What is a key feature of NACA 0012 airfoil?**

* A) High lift at low speeds
* B) Symmetrical design
* C) High drag coefficient
* D) Reverse camber  
  **Answer: B) Symmetrical design**

**6. What kind of airfoil is NACA 4412?**

* A) A symmetrical airfoil
* B) A highly cambered airfoil
* C) A flat plate
* D) A low-drag airfoil  
  **Answer: B) A highly cambered airfoil**

**7. How are NACA five-digit airfoils different from four-digit airfoils?**

* A) They focus on transonic flow
* B) They provide better lift-drag ratios
* C) They include more precise control of camber and thickness
* D) They are only used for helicopters  
  **Answer: C) They include more precise control of camber and thickness**

**8. In a five-digit NACA airfoil code like "NACA 23012," what does the first digit indicate?**

* A) Maximum camber
* B) Type of wing material
* C) Thickness distribution
* D) Minimum pressure location  
  **Answer: A) Maximum camber**

**9. NACA airfoils were first introduced in which decade?**

* A) 1920s
* B) 1930s
* C) 1940s
* D) 1950s  
  **Answer: B) 1930s**

**10. What does the "00" in NACA 0012 indicate?**

* A) Zero lift coefficient
* B) No camber
* C) Maximum drag coefficient
* D) Thickness taper  
  **Answer: B) No camber**

**11. Which of the following airfoil codes corresponds to a symmetrical airfoil?**

* A) NACA 4412
* B) NACA 0012
* C) NACA 2312
* D) NACA 3315  
  **Answer: B) NACA 0012**

**12. What is the primary difference between NACA 6-series and NACA 4-series airfoils?**

* A) NACA 6-series airfoils are for subsonic flow
* B) NACA 4-series airfoils are for supersonic flow
* C) NACA 6-series airfoils are designed for laminar flow
* D) NACA 4-series airfoils have a higher drag coefficient  
  **Answer: C) NACA 6-series airfoils are designed for laminar flow**

**13. NACA airfoils are mainly used in which type of aircraft?**

* A) Passenger jets
* B) General aviation and military aircraft
* C) Spacecraft
* D) Helicopters  
  **Answer: B) General aviation and military aircraft**

**14. The "12" in NACA 2412 indicates:**

* A) 12% maximum thickness
* B) 12° angle of attack
* C) 12% drag coefficient
* D) 12 units of lift coefficient  
  **Answer: A) 12% maximum thickness**

**15. In a NACA five-digit airfoil like 23012, the last two digits represent:**

* A) Position of maximum lift
* B) Maximum lift coefficient
* C) Maximum thickness as a percentage of chord
* D) Type of airfoil curvature  
  **Answer: C) Maximum thickness as a percentage of chord**

**16. The NACA 0012 airfoil is known for having:**

* A) Low drag
* B) High lift
* C) No camber
* D) A sharp trailing edge  
  **Answer: C) No camber**

**17. Which characteristic makes NACA airfoils useful for low-speed aircraft?**

* A) High thickness
* B) Symmetrical camber
* C) Optimized for maximum lift at low speeds
* D) Designed for high-speed subsonic flow  
  **Answer: C) Optimized for maximum lift at low speeds**

**18. What do modern aircraft use instead of NACA airfoils in many cases?**

* A) Supercritical airfoils
* B) Variable-sweep airfoils
* C) Stealth airfoils
* D) Flexible airfoils  
  **Answer: A) Supercritical airfoils**

**19. NACA airfoils were a precursor to:**

* A) Digital aerodynamic modeling
* B) Hypersonic aircraft design
* C) Computational fluid dynamics (CFD) airfoils
* D) Swept wing designs  
  **Answer: C) Computational fluid dynamics (CFD) airfoils**

**20. In the NACA 2415 airfoil, the maximum camber occurs at what percentage of the chord length from the leading edge?**

* A) 10%
* B) 20%
* C) 30%
* D) 40%  
  **Answer: D) 40%**

**AVIATION FACTS QUIZ**

**1. Who is known as the "Father of Modern Aviation"?**

* **A) Orville Wright**
* **B) Wilbur Wright**
* **C) Otto Lilienthal**
* **D) Leonardo da Vinci  
  Answer: B) Wilbur Wright**

**2. What year did the Wright brothers make their first powered flight?**

* **A) 1903**
* **B) 1899**
* **C) 1910**
* **D) 1925  
  Answer: A) 1903**

**3. What is the fastest commercial aircraft ever built?**

* **A) Concorde**
* **B) Boeing 747**
* **C) Airbus A380**
* **D) Lockheed SR-71 Blackbird  
  Answer: A) Concorde**

**4. What is the world's largest passenger airliner?**

* **A) Boeing 777**
* **B) Airbus A380**
* **C) Boeing 747**
* **D) Concorde  
  Answer: B) Airbus A380**

**5. What is the busiest airport in the world by passenger traffic?**

* **A) London Heathrow**
* **B) Tokyo Haneda**
* **C) Atlanta Hartsfield-Jackson**
* **D) Dubai International  
  Answer: C) Atlanta Hartsfield-Jackson**

**6. Which airline holds the record for the longest non-stop commercial flight as of 2023?**

* **A) Emirates**
* **B) Qantas**
* **C) Singapore Airlines**
* **D) United Airlines  
  Answer: C) Singapore Airlines**

**7. What is the nickname for the Lockheed SR-71?**

* **A) Blackbird**
* **B) Eagle**
* **C) Phantom**
* **D) Falcon  
  Answer: A) Blackbird**

**8. What is the primary reason the Concorde was retired in 2003?**

* **A) High fuel consumption and maintenance costs**
* **B) Lack of passenger interest**
* **C) Speed restrictions by governments**
* **D) Inability to fly long distances  
  Answer: A) High fuel consumption and maintenance costs**

**9. Who was the first female pilot to fly solo across the Atlantic Ocean?**

* **A) Bessie Coleman**
* **B) Amelia Earhart**
* **C) Jacqueline Cochran**
* **D) Harriet Quimby  
  Answer: B) Amelia Earhart**

**10. What is the call sign of the U.S. president's plane?**

* **A) Eagle One**
* **B) Air Force One**
* **C) Marine One**
* **D) Falcon One  
  Answer: B) Air Force One**

**11. What does "ETA" stand for in aviation?**

* **A) Estimated Time of Arrival**
* **B) Emergency Training Alert**
* **C) Electronic Tracking Airspace**
* **D) Engine Thrust Alignment  
  Answer: A) Estimated Time of Arrival**

**12. What is the purpose of the "black box" in an airplane?**

* **A) To store passenger data**
* **B) To record flight data and cockpit conversations**
* **C) To track airspeed**
* **D) To help in-flight entertainment systems  
  Answer: B) To record flight data and cockpit conversations**

**13. What is the highest altitude a commercial airplane typically flies?**

* **A) 25,000 feet**
* **B) 30,000 feet**
* **C) 35,000 feet**
* **D) 40,000 feet  
  Answer: C) 35,000 feet**

**14. Which company manufactured the famous DC-3 aircraft?**

* **A) Boeing**
* **B) Lockheed**
* **C) Douglas**
* **D) Airbus  
  Answer: C) Douglas**

**15. Which of these aircraft can achieve supersonic speeds?**

* **A) Boeing 737**
* **B) Concorde**
* **C) Airbus A320**
* **D) Cessna 172  
  Answer: B) Concorde**

**16. Which airport has the longest runway in the world?**

* **A) Beijing Daxing International Airport**
* **B) King Fahd International Airport**
* **C) Qamdo Bamda Airport**
* **D) Denver International Airport  
  Answer: C) Qamdo Bamda Airport**

**17. What was the first aircraft to break the sound barrier?**

* **A) F-22 Raptor**
* **B) Concorde**
* **C) Bell X-1**
* **D) Boeing 707  
  Answer: C) Bell X-1**

**18. Who was the first person to fly solo non-stop around the world?**

* **A) Charles Lindbergh**
* **B) Wiley Post**
* **C) Amelia Earhart**
* **D) Steve Fossett  
  Answer: D) Steve Fossett**

**19. What does "VOR" stand for in aviation navigation?**

* **A) Vertical Orbit Radius**
* **B) Very High Frequency Omnidirectional Range**
* **C) Vehicle Operations Radar**
* **D) Vector Orientation Route  
  Answer: B) Very High Frequency Omnidirectional Range**

**20. Which aircraft holds the record for the longest sustained flight?**

* **A) Lockheed U-2**
* **B) Boeing 747**
* **C) Rutan Voyager**
* **D) Cessna 172  
  Answer: C) Rutan Voyager**