



## ANSWER KEY: Aeronautics of the Space Shuttle

### Directions

After reading *Aeronautics of the Space Shuttle*, answer each question below by circling the letter that corresponds to the correct answer.

1. Name the vehicle that is an example of a lifting body.
  - a. a Boeing 747
  - b. a DC-9 jet
  - c. **the orbiter**
2. The orbiter uses what type of wing?
  - a. **delta wing**
  - b. sweepback wing
  - c. straight wing
3. Which part of the Space Shuttle is NOT reusable?
  - a. orbiter
  - b. **external fuel tank**
  - c. solid rocket booster
4. Name the "space engines" used by the orbiter to enter, exit, and change orbit.
  - a. solid rocket booster
  - b. **orbital maneuvering system**
  - c. reaction control system
5. Name the airplane control surface that is on the trailing edge of the orbiter's wings.
  - a. aileron
  - b. rudder
  - c. **elevon**
6. Name the engine system that is used to control the orbiter's motions of roll, pitch, and yaw while it is in the upper atmosphere.
  - a. **reaction control system (RCS)**
  - b. orbital maneuvering system (OMS)
  - c. orbiter reaction system (ORS)
7. What is the purpose of the S-turns during landing?
  - a. to reduce heat
  - b. **to slow the orbiter's speed**
  - c. to burn extra fuel
8. The orbiter's rudder is used to do what?
  - a. control yaw
  - b. slow the orbiter at landing
  - c. deflect the airflow and increase drag
  - d. **all of the above**
9. The orbiter lands on the runway moving at about what speed?
  - a. **215 mph**
  - b. 424 mph
  - c. Mach 1
10. One major difference between the orbiter and an airplane is found with which parts?
  - a. elevons
  - b. wings
  - c. **engines**
11. An elevon is a control surface that combines which two control surfaces?
  - a. **aileron and elevator**
  - b. elevator and rudder
  - c. wing and aileron
12. At what speeds does the orbiter fly?
  - a. hypersonic
  - b. supersonic and subsonic
  - c. 732 miles per hour
  - d. **all of the above**