MODULE 4 REVIEW

Name Class Date

Matching

Directions: Match each term in the left-hand column with its correct description in the right-hand column. Write the letter of the correct description in the space provided.

_____ 1. thrust

_____ 2. mass fraction

_____ 3. payload

_____ 4. telemetry

_____ 5. probes

_____ 6. center of gravity

_____ 7. aerodynamic drag

_____ 8. grain

_____ 9. Third Law of Motion

_____ 10. gravitational pull

a. things that relate to the purpose of the flight and are not part of the rocket's operation

b. controls a satellite in orbit

c. force resulting from combustion

d. space rockets sent far into space to explore the solar system

e. the balance point of an object

f. process used to collect data from space

g. the percentage of a rocket's total mass that should be propellant

h. becomes less as the rocket flies higher

i. to every action there is an equal and opposite reaction

j. a mixture of fuel and oxidizer resembling putty or rubber

Multiple Choice

Directions: In the space at the left, write the letter of the choice that best completes each statement.

_____ 11. One advantage of solid propellant rockets is:

a. the engines produce more thrust per pound of fuel.

b. the engines can be started and stopped as needed.

c. the propellant can be stored for long periods of time.

d. they are excellent for use in space.

MODULE 4 REVIEW, CONTINUED

_____ 12. One disadvantage of liquid propellant rockets is:
a. the burning of propellant cannot be started and stopped as needed.
b. the liquid propellant can explode easily.
c. the hollow core grain can produce more thrust but doesn't last as long.
d. pumps and other equipment are not required.

_____ 13. Active controls that are used to change the position of the vehicle in relation to the sun or earth are:
a. vernier engines.
b. vanes.
c. attitude-control rockets.
d. booster rockets.

_____ 14. The devices used to make fine adjustments in speed or direction are:
a. vernier engines.
b. vanes.
c. attitude-control rockets.
d. booster rockets.

_____ 15. Rockets used to collect information about the earth's weather and climate are:
a. probes.
b. military rockets.
c. booster rockets.
d. sounding rockets.

True-False

Directions: On the line beside each statement, write **True** if the statement is correct or **False** if the statement is incorrect.

_____ 16. The forward thrust of a rocket is based on the action principle.

_____ 17. The greater the speed and mass of escaping gases through the nozzle of a rocket, the greater the thrust.

_____ 18. The weight of a rocket increases as it flies higher.

_____ 19. A satellite does not contain people, but it is used to collect data for scientific research.

_____ 20. The center of mass of an object is also called its center of gravity.

MODULE 4 REVIEW, CONTINUED

Name _____

_____ 21. The first stage of a rocket is the booster engine.

_____ 22. An orbit follows a pattern around the earth called a satellite.

_____ 23. The slowing force created by friction between a moving object and air is called gravitational pull.

_____ 24. The fins on a rocket increase its stability.

_____ 25. Passive controls on rockets do not move.

Critical Thinking

Directions: The following questions have no single right or wrong answer. Write your best answer in the space provided.

1. Your book discusses aerodynamic drag and rocket design using principles of good aerodynamics. Brainstorm with a partner to make a list of objects designed to reduce aerodynamic drag.