

3.3**INTERNATIONAL SYSTEM OF UNITS****SECTION REVIEW****Objectives**

- List SI units of measurement and common SI prefixes
- Distinguish between the mass and weight of an object

Key Terms

- International System of Units (SI)
- meter (m)
- volume
- liter (L)
- weight
- kilogram (kg)
- gram (g)

Part A Completion

Use this completion exercise to check your understanding of the concepts and terms that are introduced in this section. Each blank can be completed with a term, short phrase, or number.

The international System of Units (SI) is a revision of the _____
_____ system. There are _____ base SI units. In SI, the base
unit of length is the _____.

1. _____
2. _____
3. _____

The space occupied by matter is known as _____. The space
taken up by a cube that is 10 cm on each edge is one _____.

4. _____
5. _____

The quantity of _____ an object contains is its mass. A
measure of the pull of gravity on an object of given mass is its

6. _____
7. _____

_____. The mass of one cubic centimeter of water at 4 °C is one
_____.

8. _____

Part B True-False

Classify each of these statements as always true, AT; sometimes true, ST; or never true, NT.

- _____ 9. The SI base unit of mass is the milliliter.
- _____ 10. A decigram is 100 times smaller than a gram.
- _____ 11. The SI unit of volume is derived from the unit of length.
- _____ 12. There are six basic SI units of measurement.

Part C Matching

Match each description in Column B to the correct term in Column A.

Column A

- _____ 13. International System of Units
- _____ 14. meter
- _____ 15. volume
- _____ 16. liter
- _____ 17. weight
- _____ 18. kilogram
- _____ 19. gram

Column B

- a. non-SI unit of volume
- b. standardized system of measurement
- c. mass unit commonly used in chemistry
- d. the SI unit of length
- e. force that measures the pull of gravity on a given mass
- f. the space occupied by a sample of matter
- g. basic SI unit of mass

Part D Questions and Problems

Answer the following in the space provided.

20. What is the volume of a board that measures 1.8 cm by 8.8 cm by 30.5 cm?

21. Which one of the following is not a base SI unit?

- a. kilogram b. liter c. kelvin d. meter

22. What is the symbol and meaning of each prefix?

a. pico-

a. _____

b. kilo-

b. _____

c. micro-

c. _____

d. centi-

d. _____