

Chapter 3 Practice Test

Multiple Choice

Identify the choice that best completes the statement or answers the question.

***You will have blast from the past questions from fall semester.**

***You will be given a periodic table and electronegativity chart.**

- _____ 1. Express the sum of 1111 km and 222 km using the correct number of significant digits.
- 1333.0 km
 - 1333 km
 - 1330 km
 - 1300 km
- _____ 2. Mercury has a density of 13.6-g/cm^3 and is a liquid at room temperature. A quarter has a mass of 5.71-g and a volume of $.581\text{-cm}^3$. Would a quarter float in a container of mercury?
- Yes
 - No
- _____ 3. What is the quantity 7896 millimeters expressed in meters?
- 789.6 m
 - 7.896 m
 - 78.96 m
 - 789,600 m
- _____ 4. What is the quantity 987 milligrams expressed in grams?
- 9.87×10^5 g
 - 9.87×10^{-3} g
 - 9.87×10^{-1} g
 - 9.87 g
- _____ 5. What is the quantity 0.0075 meters expressed in centimeters? Use the table above to help you.
- 7.5×10^{-2} cm
 - 7.5 cm
 - 7.5×10^2 cm
 - 7.5×10^{-1} cm
- _____ 6. Which of the following equalities is NOT correct?
- 100 cg = 1 g
 - $1 \text{ cm}^3 = 1 \text{ mL}$
 - 10 kg = 1 g
 - 1000 mm = 1 m
- _____ 7. Which of the following mass units is the largest?
- 1 mg
 - 1 cg
 - 1 ng
 - 1 dg
- _____ 8. When multiplying and dividing measured quantities, the number of significant figures in the result should be equal to the number of significant figures in ____.
- the most precise measurement
 - the least and most precise measurements
 - all of the measurements
 - the least precise measurement
- _____ 9. What is the temperature of absolute zero measured in $^{\circ}\text{C}$?
- -373°C
 - -173°C
 - -73°C
 - -273°C
- _____ 10. Which of the following measurements contains two significant figures?
- 0.004 00 L
 - 0.004 40 L
 - 0.000 44 L
 - 0.004 04 L
- _____ 11. Which group of measurements is the most precise? (Each group of measurements is for a different object.)
- 2.0 g, 3.0 g, 4.0 g
 - 2 g, 2.5 g, 3 g
 - 2 g, 3 g, 4 g
 - 1 g, 3 g, 5 g

- ___ 12. If a student weighs out 7.0 g of salt and the actual amount given of salt is 10.0 g, calculate the percent error?
- a. 10% c. 42%
b. -30% d. 30%
- ___ 13. Convert 15.5-cm to m:
- a. 0.155-m d. 1.55-m
b. 155000-m e. 155-m
c. 1550-m
- ___ 14. 10 cubic meter is equal to ____.
- a. 10 mL c. 1000 mL
b. 1 mL d. 100 mL
- ___ 15. Which temperature scale has no negative temperatures?
- a. Kelvin c. Fahrenheit
b. Joule d. Celsius
- ___ 16. Which of the following volumes is the smallest?
- a. one liter c. one milliliter
b. one microliter d. one deciliter
- ___ 17. $12.0540 + 1.13 =$
- a. 13 d. 13.18
b. 13.2 e. 13.184
c. 13.1840
- ___ 18. $12.0540 - 1.13 =$
- a. 10.9 d. 10.9240
b. 11 e. 10.924
c. 10.92
- ___ 19. What is the density of an object having a mass of 8.0 g and a volume of 25 cm³?
- a. 200 g/cm³ c. 0.32 g/cm³
b. 2.0 g/cm³ d. 3.1 g/cm³
- ___ 20. Express the product of 2.2 mm and 5.00 mm using the correct number of significant digits.
- a. 11 mm² c. 11.00 mm²
b. 10 mm² d. 11.0 mm²
- ___ 21. What is the volume of 80.0 g of ether if the density of ether is 0.70 g/mL?
- a. 8.8×10^{-3} c. 8.0×10^1
b. 5.6×10^1 d. 1.1×10^2
- ___ 22. Density is found by dividing ____.
- a. volume by mass c. area by mass
b. mass by area d. mass by volume
- ___ 23. Chlorine boils at 239 K. What is the boiling point of chlorine expressed in degrees Celsius?
- a. 34°C c. -61°C
b. -34°C d. 93°C
- ___ 24. How many significant figures are in the measurement 0.003 4 kg?
- a. This cannot be determined. c. two
b. four d. five

- ___ 25. Which temperature below is the lowest?
a. 200 K c. 50 K
b. 150°C d. -150°C
- ___ 26. How many significant figures are present in the following number: 1.00?
a. 0 c. 2
b. 1 d. 3
- ___ 27. How many significant figures are in the measurement 811.40 grams?
a. three c. five
b. two d. four
- ___ 28. What is the measurement 1042 L rounded off to two significant digits?
a. 1050 L c. 1040 L
b. 1.0×10^3 L d. 1.1×10^3 L
- ___ 29. What is the SI unit of mass?
a. joule c. kilogram
b. liter d. candela
- ___ 30. How many significant figures are present in the following number: 40,600
a. 2 c. 4
b. 3 d. 5
- ___ 31. A pure gold spherical earring has a volume of 1.26 mL. Calculate the mass of the earring if gold has a density of 19.3-g/cm³.
a. 5.86-g d. 123-g
b. 1.23-g e. 2180-g
c. 24.3-g
- ___ 32. Which of the following measurements is expressed to three significant figures?
a. 7.30×10^{-7} km c. 7070 mg
b. 0.070 mm d. 0.007 m
- ___ 33. What is the measurement 111.009 mm rounded off to four significant digits?
a. 111 mm c. 111.0 mm
b. 110 mm d. 111.01 mm
- ___ 34. Which set of units is in order from largest to smallest?
a. kg, mg, cg c. km, nm, cm,
b. mL, kL, uL d. ks, cs, ms
- ___ 35. What is the result of adding 2.5×10^3 and 3.5×10^2 ?
a. 6.0×10^3 c. 6.0×10^5
b. 2.9×10^2 d. 2.9×10^3
- ___ 36. What is the metric system prefix for the quantity of million?
a. *deci-* c. *micro-*
b. *centi-* d. *kilo-*
- ___ 37. Express the sum of 7.68 m and 5.0 m using the correct number of significant digits.
a. 10 m c. 13 m
b. 12.7 m d. 12.68 m
- ___ 38. What is the temperature -34°C expressed in kelvins?
a. 207 K c. 139 K
b. 239 K d. 339 K

- ____ 39. The closeness of a measurement to its true value is a measure of its ____.
- | | |
|--------------|--------------------|
| a. accuracy | c. reproducibility |
| b. precision | d. usefulness |

Multiple Response

Identify one or more choices that best complete the statement or answer the question.

- ____ 40. Which of the following has two significant figures?
- | | |
|---------|------------|
| a. 30 | c. 600 |
| b. .040 | d. .000050 |
- ____ 41. Which of the following are written and named correctly?
- | | |
|--|--------------------------------------|
| a. $(\text{NH}_4)_2\text{CO}_3$ = ammonium carbonate | c. HNO_3 = nitric acid |
| b. HF = fluoric acid | d. HClO_4 = perchloric acid |

Matching

Match each item with the correct statement below.

- | | |
|------------------------------|-----------------------|
| a. absolute zero | e. mass |
| b. Kelvin temperature scale | f. significant figure |
| c. Celsius temperature scale | g. precision |
| d. weight | h. accuracy |
- ____ 42. known or estimated in a measurement
- ____ 43. the force of gravity on an object
- ____ 44. closeness to true value
- ____ 45. the SI scale for temperature
- ____ 46. the quantity of matter an object contains
- ____ 47. the lowest point on the Kelvin scale
- ____ 48. narrowness of range of measurements
- ____ 49. the non-SI scale for temperature

Chapter 3 Practice Test Answer Section

MULTIPLE CHOICE

- | | | | |
|--------------------------|-----------------------|---------|--------------------|
| 1. ANS: B
OBJ: 3.1.3 | PTS: 1 | DIF: L1 | REF: p. 68 |
| 2. ANS: A | PTS: 1 | | |
| 3. ANS: B
OBJ: 3.3.2 | PTS: 1 | DIF: L1 | REF: p. 84 |
| 4. ANS: C
OBJ: 3.3.2 | PTS: 1 | DIF: L1 | REF: p. 84 |
| 5. ANS: D
OBJ: 3.3.2 | PTS: 1 | DIF: L1 | REF: p. 84 |
| 6. ANS: C
OBJ: 3.3.2 | PTS: 1 | DIF: L2 | REF: p. 84 |
| 7. ANS: D
OBJ: 3.2.1 | PTS: 1 | DIF: L2 | REF: p. 74 p. 76 |
| 8. ANS: D
OBJ: 3.1.3 | PTS: 1 | DIF: L2 | REF: p. 68 p. 71 |
| 9. ANS: D
OBJ: 3.2.1 | PTS: 1
STA: Ch.4.e | DIF: L1 | REF: p. 77 |
| 10. ANS: C
OBJ: 3.1.2 | PTS: 1 | DIF: L1 | REF: p. 66 |
| 11. ANS: B
OBJ: 3.1.2 | PTS: 1 | DIF: L2 | REF: p. 64 |
| 12. ANS: D | PTS: 1 | | |
| 13. ANS: A | PTS: 1 | | |
| 14. ANS: A
OBJ: 3.3.3 | PTS: 1 | DIF: L2 | REF: p. 84 |
| 15. ANS: A
OBJ: 3.2.1 | PTS: 1
STA: Ch.4.f | DIF: L1 | REF: p. 77 |
| 16. ANS: B
OBJ: 3.2.1 | PTS: 1 | DIF: L1 | REF: p. 74 p. 75 |
| 17. ANS: D | PTS: 1 | | |
| 18. ANS: C | PTS: 1 | | |
| 19. ANS: C
OBJ: 3.4.1 | PTS: 1 | DIF: L2 | REF: p. 90 p. 91 |
| 20. ANS: A
OBJ: 3.1.3 | PTS: 1 | DIF: L1 | REF: p. 68 p. 71 |
| 21. ANS: D
OBJ: 3.4.1 | PTS: 1 | DIF: L2 | REF: p. 91 |
| 22. ANS: D
OBJ: 3.4.1 | PTS: 1 | DIF: L1 | REF: p. 90 p. 91 |
| 23. ANS: B
OBJ: 3.2.3 | PTS: 1
STA: Ch.4.e | DIF: L2 | REF: p. 77 p. 78 |

24. ANS: C PTS: 1 DIF: L1 REF: p. 66
OBJ: 3.1.3
25. ANS: C PTS: 1
26. ANS: D PTS: 1
27. ANS: C PTS: 1 DIF: L1 REF: p. 66
OBJ: 3.1.3
28. ANS: B PTS: 1 DIF: L2 REF: p. 66 | p. 68
OBJ: 3.1.3
29. ANS: C PTS: 1 DIF: L1 REF: p. 76
OBJ: 3.2.1
30. ANS: B PTS: 1
31. ANS: C PTS: 1
32. ANS: A PTS: 1 DIF: L2 REF: p. 66
OBJ: 3.1.2
33. ANS: C PTS: 1 DIF: L2 REF: p. 66 | p. 68
OBJ: 3.1.3
34. ANS: D PTS: 1
35. ANS: D PTS: 1 DIF: L2 REF: p. 63 | p. 71
OBJ: 3.1.1
36. ANS: C PTS: 1 DIF: L1 REF: p. 74
OBJ: 3.2.1
37. ANS: B PTS: 1 DIF: L1 REF: p. 68 | p. 70
OBJ: 3.1.3
38. ANS: B PTS: 1 DIF: L1 REF: p. 77 | p. 78
OBJ: 3.2.3 STA: Ch.4.e
39. ANS: A PTS: 1 DIF: L1 REF: p. 64
OBJ: 3.1.2

MULTIPLE RESPONSE

40. ANS: B, D PTS: 1
41. ANS: A, C, D PTS: 1

MATCHING

42. ANS: F PTS: 1 DIF: L1 REF: p. 66
OBJ: 3.1.3
43. ANS: D PTS: 1 DIF: L1 REF: p. 76
OBJ: 3.2.2
44. ANS: H PTS: 1 DIF: L1 REF: p. 64
OBJ: 3.1.2
45. ANS: B PTS: 1 DIF: L1 REF: p. 77
OBJ: 3.2.1 STA: Ch.4.d
46. ANS: E PTS: 1 DIF: L1 REF: p. 76
OBJ: 3.2.1
47. ANS: A PTS: 1 DIF: L1 REF: p. 77
OBJ: 3.2.1 STA: Ch.4.f

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| 48. | ANS: G | PTS: 1 | DIF: L1 | REF: p. 64 |
| | OBJ: 3.1.2 | | | |
| 49. | ANS: C | PTS: 1 | DIF: L1 | REF: p. 76 |
| | OBJ: 3.2.2 | STA: Ch.4.d | | |