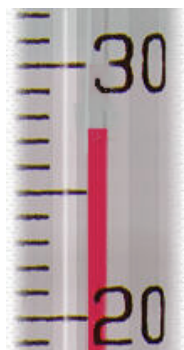


This is a sample quiz for CH 221 providing examples from Chapter 1. Answers are provided at the end of this handout. *Good luck!*

1. How many significant digits are present in the temperature read from the thermometer illustrated to the right?



- a) 1 b) 2 c) 3 d) 4

2. The dimensions of a rectangular solid are 8.00 cm long, 4.00 cm wide, and 2.00 cm high. If the density of the solid is 10.0 g/cm^3 , what is its mass?

- a) 10/64 grams d) 320. grams
b) 10.0 grams e) 640. grams
c) 64.0 grams

3. A metal sample weighing 30.9232 grams was added to a graduated cylinder containing 23.26 mL of water. The volume of water plus the sample was 24.85 mL. Which setup will result in the density of this metal?

a) $30.9232 \times (24.85 - 23.26)$

b) $\frac{30.9232}{24.85 - 23.26}$

c) $\frac{24.85 - 23.26}{30.9232}$

d) $30.9232 \times \frac{24.85}{23.26}$

e) $\frac{30.9232}{24.85 + 23.26}$

4. The number of significant digits in 0.30500 is

- a) 1 d) 4
b) 2 e) 5
c) 3

5. A box measures 3.50 cm x 2.915 cm. The product of these numbers = 10.2025 cm^2 . What is the proper way to report the area of the box?

- a) 10.20 cm^2 c) 10 cm^2
b) 10.2 cm^2 d) $10. \text{ cm}^2$

6. The result of $2.350 \times (4.0 + 6.311)$ is,

- a) 24 c) 24.21
b) 24.2 d) 24.205

7. A student does a calculation using her calculator and the number 280.27163 is shown on the display. If there are actually three significant figures, how should she show the final answer?

- a) 280 d) 2.80×10^{-2}
b) 280.3 e) 2.80×10^2
c) 280.27

8. The term that refers to the reproducibility of a laboratory measurement is

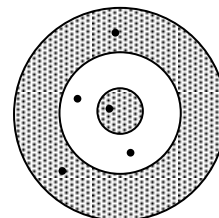
- a) precision c) accuracy
b) repeatability d) exactness

9. Which measurement below is NOT written with three significant digits?

- a) 2.00 cm c) 0.003 L
b) 550. grams d) 12.7 mm

10. The number 6.33×10^2 equals,
a) 6.33 c) 633
b) 0.633 d) 0.0633
11. The number 6.33×10^{-2} equals,
a) 6.33 c) 633
b) 0.633 d) 0.0633
12. Calculate the following:
150.3 - 107.240
a) 43
b) 43.1
c) 43.06
d) 43.060
13. Calculate the following:
322.44 - 0.321 - 72.0 - 68.9555
a) 181.1635
b) 181.164
c) 181.16
d) 181.2
e) 181
14. Calculate the following:
18.3 * (375 - 289) / 1.16
a) 1356.72
b) 1356.7
c) 1357
d) 1360
e) 1400
15. Which exhibits the largest length?
a) 0.100 km
b) 250 cm
c) 1.7×10^6 mm
d) 450,000 nm
16. The prefix “nano-” corresponds to what multiplication factor?
a) 10^{-9} d) 10^{-2}
b) 10^{-6} e) 10^3
c) 10^{-3}
17. The prefix “milli-” corresponds to what multiplication factor?
a) 10^{-9} d) 10^{-2}
b) 10^{-6} e) 10^3
c) 10^{-3}
18. The prefix “micro-” corresponds to what multiplication factor?
a) 10^{-9} d) 10^{-2}
b) 10^{-6} e) 10^3
c) 10^{-3}
19. The prefix “centi-” corresponds to what multiplication factor?
a) 10^{-9} d) 10^{-2}
b) 10^{-6} e) 10^3
c) 10^{-3}
20. Convert 32.0 cm into nm.
a) 3.2×10^{-6} d) 3.20×10^8
b) 3.20×10^{-6} e) 320.
c) 3.2×10^8
21. Convert 475 mL into L.
a) 4.75 L d) 0.0475 L
b) 0.475 L e) .5 L
c) 47.5 L

22. Convert 367 K into °C.
- 93.85 °C
 - 93.9 °C
 - 94 °C
 - 90 °C
 640. °C
23. Convert -212.1 °C into K.
- 61.05 K
 - 61.05 K
 - 61.1 K
 - 61 K
 - 60 K
24. Convert 32.1 °C into °F.
- 89.78 °F
 - 89.8 °F
 90. °F
 - 90 °F
 - 100 °F
25. You measure the density of a slab of lead as 11.10 g/mL. The accepted value is 11.34 g/mL. The percent error for your measurement is
- 2.1 %
 - 2.4 %
 - 3.7 %
 - 5.1 %
26. A sample of ore with a mass of 44.15 g contains aluminum and oxygen. Chemical analysis shows the sample contains 23.0 g of aluminum. The percent oxygen in the sample is
- 47.90 %
 - 47.9 %
 - 52.1 %
 - 52.10 %
27. Which one of the following elements is correctly matched with its symbol?
- Ag, gold
 - Ni, nickel
 - Fl, fluorine
 - Mg, manganese
 - H, helium
28. Which one of the following elements is correctly matched with its symbol?
- P, potassium
 - S, sodium
 - Mn, magnesium
 - Os, osmium
 - B, beryllium
29. The marks on the following target represent someone who is:



- accurate, but not precise.
- precise, but not accurate.
- both accurate and precise.
- neither accurate nor precise.

30. You need 36.7 g of Fe from a sample that is 36.0% iron by mass. How many grams of the sample will you need?
- 101.94 g
 - 101.9 g
 - 102 g
 - 13.212 g
 - 13.2 g

Answers:

1.	C	16.	A
2.	E	17.	C
3.	B	18.	B
4.	E	19.	D
5.	B	20.	D

6.	B	21.	B
7.	E	22.	C
8.	A	23.	C
9.	C	24.	B
10.	C	25.	A

11.	D	26.	B
12.	B	27.	B
13.	D	28.	D
14.	E	29.	D
15.	C	30.	C