

THE FOLLOWING QUESTIONS ARE PRACTICE QUESTIONS FOR THE CSN CHEMISTRY PLACEMENT EXAM

The chemistry placement test is used to assess your preparation for General Chemistry I, CHEM 121 at CSN. The test is a standardized test that will examine your knowledge of chemistry and basic mathematical skills. You will be provided scratch paper, a Periodic Table of the Elements and a nonprogrammable scientific calculator. The following sample questions are intended only as a guide to show you the relative level of difficulty and example topics covered in the Chemistry Placement Exam. The actual exam will have a time limit of 50 minutes to answer 35 multiple choice questions. Click the following link to view a Periodic Table.

MULTIPLE CHOICE. Choose the single choice that best answers the question.

1) How many total atoms are in the formula

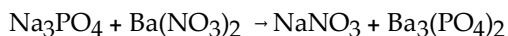


- A) 12 B) 14 C) 9 D) 8

2) How many electrons are in Br^- ?

- A) 4 B) 7 C) 36 D) 34

3) What are the coefficients for the following reaction when it is properly balanced?



- A) 2, 3, 6, 1 B) 6, 1, 3, 2
C) 2, 3, 1, 6 D) 2, 1, 1, 3

4) Given that $4 \text{NH}_3 + 5 \text{O}_2 \rightarrow 4 \text{NO} + 6 \text{H}_2\text{O}$, when 4.50 mol of H_2O are formed, the amount of NO formed is

- A) 3.00 mol B) 6.75 mol
C) 1.50 mol D) 4.50 mol

5) What type of a reaction occurs when a sodium hydroxide solution is mixed with an acetic acid solution?

- A) gas evolution
B) oxidation-reduction
C) acid-base neutralization
D) precipitation

6) Which of the following atoms has the smallest radius?

- A) Ne B) O
C) Li D) B

7) What is the molecular geometry if you have a double bond, a single bond and 1 lone pair around the central atom?

- A) trigonal pyramidal
B) linear
C) tetrahedral
D) bent

8) What volume of 12.0 M HCl is required to make 75.0 mL of 3.50 M HCl?

- A) 0.560 mL B) 257 mL
C) 560. mL D) 21.9 mL

$$9) \frac{(2.80 \times 10^{-3})(1.28 \times 10^1)}{(3.20 \times 10^{-4})} = \underline{\hspace{2cm}}$$

- A) 1.27×10^1 B) 2.0×10^2
C) 1.2×10^6 D) 1.12×10^2

10) Of the molecules below, only _____ is polar.

- A) CH_4 B) SbF_5
C) CO_2 D) AsH_3

11) Which one of the following is a metalloid?

- A) S B) Ge C) C D) Pb

12) A certain atom has a charge of -2 and has 16 protons and 16 neutrons in the nucleus. How many electrons does this atom possess?

- A) 34 B) 14 C) 32 D) 18

13) How many moles of pyridine ($\text{C}_5\text{H}_5\text{N}$) are contained in 3.13 g of pyridine?

- A) 0.00404 B) 25.3
C) 0.0396 D) 0.319

14) Solve the following equation for x:

$$4x - b = 2x + c$$

- A) $c - b - 6$ B) $\frac{c + b}{2}$
C) $\frac{c + b}{6}$ D) $\frac{c - b}{2}$