

## Diagnostic Test

Summer 2011

1. How many nanometers make up one meter?

- A.  $10^3$
- B.  $10^6$
- C.  $10^9$
- D.  $10^{12}$

1. \_\_\_\_\_

2. How many significant figures are in the number 0.010010?

- A. 2
- B. 3
- C. 4
- D. 5

2. \_\_\_\_\_

3. Which of the following are chemical (as opposed to physical) properties?

- I The boiling point of ethyl alcohol is  $78^{\circ}\text{C}$ .
- II Oxygen combusts when heated.
- III Diamond is very hard.
- IV Sugar ferments to form ethyl alcohol.

- A. I only.
- B. I and III only.
- C. II and IV only.
- D. I, II, and IV only.
- E. I, II, III, and IV.

3. \_\_\_\_\_

4. Which of the following is the same in all isotopes of an element?

- A. Number of protons
- B. Number of neutrons
- C. Number of electrons
- D. Atomic mass

4. \_\_\_\_\_

5. Which of the following has the largest atomic radius?

Li 3	Be 4
Na 11	Mg 12

- A. Li
- B. Na
- C. Be
- D. Mg

5. \_\_\_\_\_

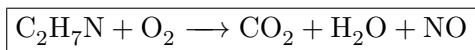
6. Which is the correct order of these columns of the periodic table, from left to right?

I Alkaline earth metals
II Halogens
III Noble gases
IV Transition metals

- A. IV, III, I, II.
- B. I, IV III, II.
- C. IV, I, II, III.
- D. I, IV, II, III.
- E. II, IV, III, I.

6. \_\_\_\_\_

7. Which numbers correctly balance the equation below?



- A. 2, 4, 4, 7, 2
- B. 2, 8, 4, 7, 2
- C. 8, 34, 4, 28, 8
- D. 4, 17, 8, 14, 4

7. \_\_\_\_\_