

Name: KEY

Chemistry 121
Fall 2006, Test 1
Test Answer Sheet

I. Multiple Choice: Clearly CIRCLE the best answer.

1. A B C **(D)**
2. A **(B)** C D
3. A B C **(D)**
4. **(A)** B C D
5. A **(B)** C D

II. Chemical Formulas, Naming, Atomic Notation and Significant Figures: Fill in the blanks provided.

6a. CdSO₄

6f. SeS₂

6b. NCl₃

6g. Al(OH)₃

6c. KrF₆

6h. Be₃N₂

6d. Mg(HSO₃)₂

6i. CBr₄

6e. Cr(NO₃)₃

6j. K₂CO₃

7a. lithium nitride

7f. ammonium phosphate

7b. sulfur trioxide

7g. titanium(IV) oxide

7c. copper(I) sulfate

7h. calcium acetate

7d. rubidium chloride

7i. phosphorus trifluoride

7e. sulfur dibromide

7j. magnesium dichromate

8a. Zr

8d. scandium

8b. 40

8e. 21

8c. 92

8f. 25

9a. 2

9b. 4

9c. 3

9d. 5

III. Calculations: Show all work. Partial credit will be given for correct work. If I cannot read the work, it will not be graded.

10. (10 pts)

$$2.48 \text{ lb} \times \frac{1 \text{ kg}}{2.205 \text{ lb}} \times \frac{1000 \text{ g}}{1 \text{ kg}} = 1120 \text{ g} \text{ or } 1.12 \times 10^3 \text{ g}$$

11. (15 pts)

$$\frac{540 \text{ m}}{\text{s}} \times \frac{60 \text{ s}}{1 \text{ min}} \times \frac{39.37 \text{ in}}{1 \text{ m}} \times \frac{1 \text{ ft}}{12 \text{ in}} = 1.1 \times 10^5 \frac{\text{ft}}{\text{min}}$$

12. (15 pts)

$$15.1 \text{ lb} \times \frac{1 \text{ kg}}{2.205 \text{ lb}} \times \frac{1000 \text{ g}}{1 \text{ kg}} \times \frac{1 \text{ mL}}{13.5 \text{ g}} = 507 \text{ mL}$$

IV. ESSAY QUESTION (worth 10 pts): IV. ESSAY QUESTION (worth 10 pts): In 4 – 6 complete sentences, answer ONE of the following essay questions.

- Describe how Millikan determined the charge on one electron.
- Explain how a mass spectrometer works.

See "Facets of Chemistry"
in Chapter 1, Brady & Senese