

Name key Dsect Print Name form A

Please show work on all questions for partial credit even on questions which do not specify. (20 total pts)

- Which is the correct scientific notation for the number 4,264,000 meters. (2 pts)
 A) $4.264 \times 10^{-7} \text{ m}$ **B) $4.264 \times 10^6 \text{ m}$** C) $4.264 \times 10^7 \text{ m}$ D) $4.264 \times 10^{-6} \text{ m}$
- Give the periodic table group number for **alkali metals**? 1A (1 pt)
- (a) Give the name of the element **Na** sodium (1 pt)
 (b) Give the symbol for the element **nitrogen** (1 pt) N
- kilometer** means 1000 meters or 10 raised to what power 10^3 (don't forget sign) (2 pt, 1 pts each)
- Significant Figures: Give the answer to the correct # of significant figures. (1 pt)
 $78.23 + 1.2 =$ 79.43 column 79.4
- For the element **P (phosphorus)** answer the following (1 pt each blank, 9 pts total)
 - How many protons 15 b) How many electrons for the neutral atom 15
 - Give the symbol in the format ${}^A_Z X$ for the same element ${}^{31}_{15} P$
 - What group is the element in SA e) What period is the element in 3
 - Is the element a [(metal) or **(nonmetal)**]
 - what is the atomic mass 30.97 i) what is the mass of one mole of the element 30.97g
 (for these don't forget units) amu
 - how many atoms are in one mole of the element 6.022×10^{23}
- Convert from 2.35 miles / hour to km / second (1 miles = 1.609 km) Show work. (4 pts)

NA =
not attempted

attempt -
usually
1/2 credit

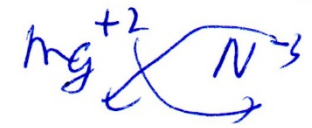
NW = no work

Extra Credit Question: (4 pts)

Is the compound formed between **Mg** and **N** [(ionic) or (covalent)] (circle one)

What is the charge for **Mg**? +2 (the charge on the element **N** is -3)

What is the formula for the **Mg** and **N**? (show work) $Mg_3 N_2$



Name of the compound made from **Mg** and **N**? magnesium nitride
nitrogen + ide

$$2.35 \frac{\text{miles}}{\text{hr}} \times \frac{1.609 \text{ km}}{1 \text{ mile}} \times \frac{\text{hr}}{60 \text{ min}} \times \frac{1 \text{ min}}{60 \text{ sec}} = 1.05 \times 10^{-3} \frac{\text{km}}{\text{sec}}$$

Name Key D Sect Print Name Form B

Please show work on all questions for partial credit even on questions which do not specify. (20 total pts)

1. Which is the correct scientific notation for the number ^{mm} 4,264,000 meters. (2 pts)

- (A) 4.264×10^6 m
- B) 4.264×10^{-7} m
- C) 4.264×10^7 m
- D) 4.264×10^{-6} m

Green

2. Give the periodic table group number for **halogens**? 7A (1 pt)

3. (a) Give the name of the element N nitrogen (1 pt)

(b) Give the symbol for the element **iron** (1 pt) Fe

NA = not attempted

4. **millimeter** means 0.001 meters or 10 raised to what power 10^{-3} (don't forget sign) (2 pt, 1 pts each)

5. Significant Figures: Give the answer to the correct # of significant figures. (1 pt)

$78.23 * 1.2 =$ 93.876 \rightarrow 2 s.f.

6. For the element **K (potassium)** answer the following (1 pt each blank, 9 pts total)

a) How many protons 19 b) How many electrons for the neutral atom 19

c) Give the symbol in the format ${}^A_Z X$ for the same element ${}^{39}_{19} K$

d) What group is the element in 1A e) What period is the element in 4

g) Is the element a (metal) or (nonmetal)

h) what is the atomic mass 39.10 amu i) what is the mass of one mole of the element 39.10g
(for these don't forget units)

j) how many atoms are in one mole of the element 6.022×10^{23} atoms

7. Convert from 5.78 miles / hour to km / second (1 miles = 1.609 km) Show work. (4 pts)

$$5.78 \frac{\text{miles}}{\text{hr}} \times \frac{1.609 \text{ km}}{1 \text{ mile}} \times \frac{1 \text{ hr}}{60 \text{ min}} \times \frac{1 \text{ min}}{60 \text{ sec}} = 2.58 \times 10^{-3} \frac{\text{km}}{\text{sec}}$$

Extra Credit Question: (4 pts)

Is the compound formed between **Al and S** (ionic) or (covalent) (circle one)

What is the charge for **Al**? +3 (the charge on the element **S** is -2)



What is the formula for the **Al and S**? (show work)

Name of the compound made from **Al and S**? Al_2S_3 aluminum sulfide

sulfide

NW = no work

attempt usually 1/2 credit

Name Key (F sect) Print Name (Form A)

Please show work on all questions for partial credit even on questions which do not specify. (20 total pts)

1. What is the element with 14 protons, 15 neutrons and 14 electrons ? (2 pts)
A) B B) N (C) Si D) P

NA = not attempt

2.(a) In the periodic table, which group (give group #) is the **alkaline earth metal group**? 2A (1 pt)

(b) Give the name of the element **Fe** (1 pts) iron

(c) Give the symbol for the element **phosphorus** (1 pts) P

NW = no work

2. **milligrams** means 1/1000 grams or 10 raised to what power 10⁻³ (don't forget sign) (2 pt, 1 pts each)
(0.001)

3. Significant Figures: Complete the following paying special attention to significant figures. (1 pt)

988.798 - 200.1 + 1.0001 = 789.6981 → 789.7

4. For the element **Cs (cesium)** answer the following (1 pt each blank, 9 pts total) (show work)

a) How many protons 55 b) How many electrons for the neutral atom 55

c) Give the symbol in the format ${}^A_Z X$ for the same element ${}^{133}_{55}Cs$

Attempt usually 1/2 credit

d) What group is the element in 1A e) What period is the element in 6

f) Is the element a (metal) or (nonmetal)

g) what is the atomic mass 132.905 amu h) what is the mass of one mole of the element 132.9 g
(for these don't forget units)

i) how many atoms are in one mole of the element 6.022×10^{23} atoms

5.(a) How many **moles** are in **18.9** grams of the element **Mg** ? (show work) (2 pts)

$18.9 \text{ g Mg} \times \frac{1 \text{ mol Mg}}{24.31 \text{ g Mg}} = 0.777 \text{ mol Mg}$

(b) How many **atoms** are in **18.9** grams of the element **Mg** ? (show work) (2 pts)

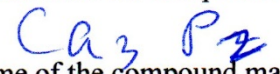
$18.9 \text{ g Mg} \times \frac{1 \text{ mol Mg}}{24.31 \text{ g Mg}} \times \frac{6.022 \times 10^{23} \text{ atoms}}{1 \text{ mol Mg}} = 4.68 \times 10^{23}$

Is the compound formed between **Ca & P** (ionic) or (covalent)(circle one)

What is the charge of the element **Ca** ? (the charge on the element P is -3)

+2 (gp#)

What is the formula for the compound formed between **Ca & P** ? (show work)



What is the name of the compound made from **Ca & P** ?

calcium phosphide (phosphorus) tide

Name Key Fsect Print Name Form B
 Please show work on all questions for partial credit even on questions which do not specify. (20 total pts)

1. What is the element with 14 protons, 15 neutrons and 14 electrons? (2 pts) (green)
 (A) Si B) P C) B D) N

2. (a) In the periodic table, which group (give group number) is the noble gases? 8A (1 pt)
 (b) Give the name of the element Si (1 pts) silicon
 (c) Give the symbol for the element oxygen (1 pts) O

3. centimeter means 0.01 meters or 10 raised to what power 10⁻² (don't forget sign) (2 pt, 1 pts each)

4. Significant Figures: Complete the following paying special attention to significant figures. (1 pt)
 $(988.798) / (200.1 * 1.0001) =$ 4.941025138 4 s.f. 4.941

5. For the element **Se (selenium)** answer the following (1 pt each blank, 9 pts total) (show work)

a) How many protons 34 b) How many electrons for the neutral atom 34

c) Give the symbol in the format $^A_Z X$ for the same element $^{34}_{34} Se$

d) What group is the element in 6A e) What period is the element in 4

f) Is the element a [(metal) or (nonmetal)]

g) what is the atomic mass 78.96 h) what is the mass of one mole of the element 78.96 g
 (for these don't forget units) amu

i) how many atoms are in one mole of the element 6.022×10^{23} atoms

6.(a) How many **moles** are in **79.2** grams of the element **P**? (show work) (2 pts)

$$79.2 \text{ g P} \times \frac{1 \text{ mol P}}{30.97 \text{ g P}} = 2.56 \text{ mol P}$$

(b) How many **atoms** are in **79.2** grams of the element **P**? (show work) (2 pts)

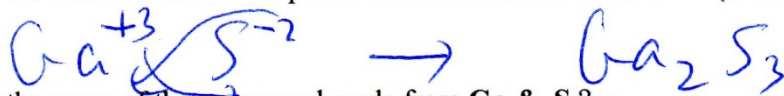
$$79.2 \text{ g P} \times \frac{1 \text{ mol P}}{30.97 \text{ g P}} \times 6.022 \times 10^{23} \text{ atoms} = 4.94 \times 10^{24} \text{ atoms}$$

Extra Credit Question: (4 pts, 1 pt each)

Is the compound formed between **Ga & S** [(ionic) or (covalent)](circle one) (ionic)

What is the charge of the element **Ga**? (the charge on the element S is -2) +3 (go. #)

What is the formula for the compound formed between **Ga & S**? (show work)



What is the name of the compound made from **Ga & S**?

gallium sulfide gallium sulfide

NA = not attempt
attempt usually 1/2 credit
NW = no work

Name Key Print Name _____

Please show work on all questions for partial credit even on questions which do not specify. (20 total pts)

1. The temperature scales of Kelvin, Celsius and Fahrenheit use different ways to define scale. Which of the following correctly ranks the temperature from smallest to largest? (2 pts)

- A) $0^{\circ}\text{C} = 0\text{ K} = 0^{\circ}\text{F}$ B) $0^{\circ}\text{C} < 0\text{ K} < 0^{\circ}\text{F}$ **C) $0\text{ K} < 0^{\circ}\text{F} < 0^{\circ}\text{C}$** D) $0\text{ K} < 0^{\circ}\text{C} < 0^{\circ}\text{F}$

2. (a) In the periodic table, which group (give group number) is the **halogen**? 7A (1 pt)

(b) Give the name of the element **K** (1 pts) potassium

(c) Give the symbol for the element **boron** (1 pts) B

3. **decimeter** means $\frac{1}{10}$ meters or 10 raised to what power 10^{-1} (don't forget sign) (2 pt, 1 pts each)

4. Significant Figures: Complete the following paying special attention to significant figures. (1 pt)

$(87.238 - 2.22) * 7.339 =$ $623.94102 = 85.018 * 7.339$

5. For the element **Sr (strontium)** answer the following (1 pt each blank, 9 pts total) (show work)

a) How many protons 38 b) How many electrons for the neutral atom 38

c) Give the symbol in the format ${}^A_Z\text{X}$ for the same element ${}^{88}_{38}\text{Sr}$

d) What group is the element in 2A e) What period is the element in 5

f) Is the element a (metal) or (nonmetal)

g) what is the atomic mass 87.6 h) what is the mass of one mole of the element 87.6 g
(for these don't forget units) amu

i) how many atoms are in one mole of the element 6.022×10^{23} atoms

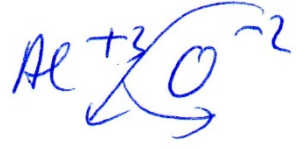
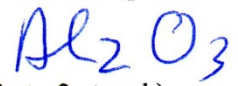
6. How many **moles** are in 67.2 grams of the element **Ca**? (show work) (2 pts)

$67.2\text{ g} \times \frac{1\text{ mol Ca}}{40.08\text{ g Ca}} = 1.68\text{ mol}$

7. a. What is the charge for the element **Al**? (1 pt) ? (show work) (O is -2)

+3 (group #)

b. what is the formula for a compound made up of Al & O? (1 pt)



Extra Credit Question: (4 pts, 2 pt each)

Is a compound formed between **P & O** [(ionic) or (covalent)](circle one)

What is the name of the compound P_2O_5 ?

diphosphorus pentoxide

Name _____ Print Name _____

Please show work on all questions for partial credit even on questions which do not specify. (20 total pts)

1. Which is the correct scientific notation for the number 4,264,000 meters. (2 pts) *green*
A) 4.264×10^{-7} m B) 4.264×10^6 m C) 4.264×10^7 m D) 4.264×10^{-6} m

2. Give the periodic table group number for **alkali metals**? _____ (1 pt)

3. (a) Give the name of the element **Na** _____ (1 pt)

(b) Give the symbol for the element **nitrogen** (1 pt) _____

4. **kilometer** means _____ meters or 10 raised to what power _____ (don't forget sign) (2 pt, 1 pts each)

5. Significant Figures: Give the answer to the correct # of significant figures. (1 pt)

$78.23 + 1.2 =$ *← -1/2 s.f.*

6. For the element **P (phosphorus)** answer the following (1 pt each blank, 9 pts total)

a) How many protons _____ b) How many electrons for the neutral atom _____

c) Give the symbol in the format ${}^A_Z X$ for the same element _____ *15 p = 1/2 pt*

d) What group is the element in _____ e) What period is the element in _____

g) Is the element a [(metal) or (nonmetal)]

h) what is the atomic mass _____ i) what is the mass of one mole of the element _____ (for these don't forget units)

j) how many atoms are in one mole of the element _____

7. Convert from 2.35 miles / hour to km / second (1 miles = 1.609 km) Show work. (4 pts)

math - 1/2 pt
s.f. - 1/2 pt
attempt - 2 pt

Extra Credit Question: (4 pts)

Is the compound formed between **Mg** and **N** [(ionic) or (covalent)] (circle one) *1 pt each*

What is the charge for **Mg**? _____ (the charge on the element **N** is -3)

What is the formula for the **Mg** and **N**? (show work)

Name of the compound made from **Mg** and **N**? _____