

## AP WORKSHEET 01A: Moles and Avogadro's Number

### Question 1

A sample of Ge is found to contain  $9.70 \times 10^{23}$  atoms of Ge.

(a) How many moles of Ge atoms are in the sample? (1)

(b) What is the mass of the sample? (1)

### Question 2

(a) How many W atoms are found in 0.43 moles of pure W? (1)

(b) What is the mass of the W?

### Question 3

(a) What is the mass, in grams, of 0.531 moles of Sn? (1)

(b) How many Sn atoms are in the sample? (1)

Question 4

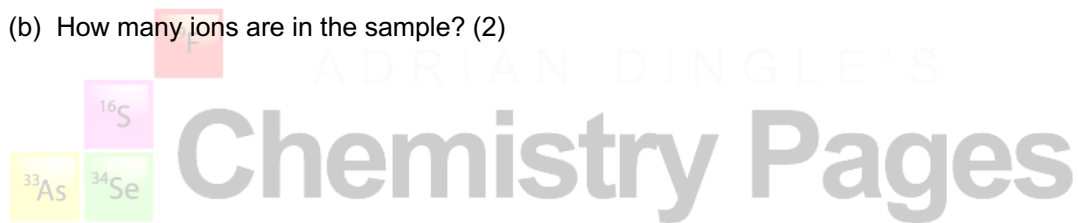
(a) How many moles of Ca are in 2.03 g of Ca? (1)

(b) How many Ca atoms in the sample?

Question 5

(a) 5.00 moles of a binary, group 2 oxide are found to have a mass of 521 g. Identify the group 2 metal. (2)

(b) How many ions are in the sample? (2)



Question 6

(a) How many Ta atoms are found in a 1.231 g sample of Ta? (2)

(b) How many moles of Ta atoms are in the sample? (1)

Question 7

(a) What is the mass of  $8.11 \times 10^{23}$  atoms of Sulfur? (2)

(b) How many moles of S are in the sample? (1)

Question 8

What mass of Cu atoms have the same number of atoms as there are in a 4.21g sample of Si?  
(2)

