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**Chapter 2 (397853)**

**About this Assignment**

**Description**

Atoms and Elements

**Instructions**

Atoms and Elements

1. KT6 2.P.009. [467619] [Show Details](#)

Give the mass number of each of the following atoms.

(a) iron with 30 neutrons

(b) titanium with 26 neutrons

(c) sodium with 12 neutrons

2. KT6 2.P.012. [489869] [Show Details](#)

Give the complete symbol ( ${}^A_ZX$ ) for each of the following atoms. (Enter the symbol with the first (raised) number in the first box, the second (lower) number in the second box, and the element in the third box.)

(a) fluorine with 10 neutrons

  

(b) arsenic with 42 neutrons

  

(c) calcium with 20 neutrons

  

3. KT6 2.P.014. [467513] [Show Details](#)

How many electrons, protons, and neutrons are there in the following atoms?

(a) boron-11,  ${}^{11}\text{B}$

electrons

protons

neutrons

(b) bismuth-205,  ${}^{205}\text{Bi}$

electrons

protons

neutrons

(c) calcium-40,  ${}^{40}\text{Ca}$

electrons

protons

neutrons

**4.** KT6 2.P.016. [467370] [Show Details](#)

Radioactive americium-241 is used in household smoke detectors and in bone mineral analysis. Give the number of electrons, protons, and neutrons in an atom of americium-241.

electrons

protons

neutrons

**5.** KT6 2.P.020. [489878] [Show Details](#)

Strontium has four stable isotopes. Strontium-84 has a very low natural abundance, but  $^{86}\text{Sr}$ ,  $^{87}\text{Sr}$ , and  $^{88}\text{Sr}$  are all reasonably abundant. Knowing that the atomic weight of strontium is 87.62, which of the more abundant isotopes predominates?

- $^{86}\text{Sr}$   
  $^{87}\text{Sr}$   
  $^{88}\text{Sr}$

**6.** KT6 2.P.021. [467330] [Show Details](#)

Verify that the atomic mass of lithium is 6.94, given the following information.

$^6\text{Li}$ , mass = 6.015121 amu; percent abundance = 7.50%

$^7\text{Li}$ , mass = 7.016003 amu; percent abundance = 92.50%

**7.** KT6 2.P.041.INT. [502087] [Show Details](#)

## Homework 2.41

MAIN QUESTION

## Question

Classify the following elements as metals, metalloids, or nonmetals.

## Answer

Select responses, then Submit.

- N**    metal    metalloid    nonmetal  
**Na**    metal    metalloid    nonmetal  
**Ni**    metal    metalloid    nonmetal  
**Ne**    metal    metalloid    nonmetal  
**Np**    metal    metalloid    nonmetal

Question has not been submitted for scoring.

8. KT6 2.P.053. [489833] [Show Details](#)

Reviewing the periodic table.

- (a) Name an element in Group 2A.
- (b) Name an element in the third period.
- (c) Which element is in the **fourth** period in Group 4A?
- (d) Which element is in the **fifth** period in Group 6A?
- (e) Which halogen is in the **fifth** period?
- (f) Which alkaline earth element is in the third period?
- (g) What noble gas element is in the **fourth** period?
- (h) Name the nonmetal in Group 6A and the **second** period.
- (i) Name a metalloid in the fourth period.

9. KT6 2.P.077.Tutor. [510546] [Show Details](#)

### Tutorial Question

If you have trouble answering the main question(s) below, a tutorial will guide you through the solution process.

## Homework 2.77

| MAIN QUESTION | Question  | Answer  |
|---------------|---|---|
|               | <p>A cylindrical piece of sodium is 12.51 cm long and has a diameter of 4.2 cm. The density of sodium is 0.971 g/cm<sup>3</sup>. How many moles does the piece of sodium contain?<br/>[The volume of a cylinder is <math>V = \pi \cdot r^2 \cdot \text{length}</math>.]</p> | <p>Enter a response, then Submit.</p> <p><input type="text"/> mol Na</p> <p><input type="button" value="Submit"/></p> |

Question has not been submitted for scoring.

10. KT6 2.P.031.Tutor. [510839] [Show Details](#)

### Tutorial Question

If you have trouble answering the main question(s) below, a tutorial will guide you through the solution process.

## Homework 2.31

MAIN QUESTION

### Question

You are given 1.0-g samples of B, Cl, Fe, U, and W. Which sample has the largest number of atoms?

Enter the symbol for the element.

### Answer

Enter a response, then **Submit**.

**Submit**

Question has not been submitted for scoring.

[Submit for Testing](#)