General Chemistry I Unit 02: The Atom

Author: Joanna Smithback

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Joanna Smithback, Ph.D. and Rachel Lerebours. General Chemistry I. The Saylor Foundation, http://www.saylor.org/courses/chem101/

Table of Contents

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1. Unit 02: The Atom

4. Chapter: Unit 02: The Atom

1. Unit 02: The Atom Questions

4.1.1. If red light has a frequency of 4.28 x 10[sup]14[/sup] Hz, what is ...

Author: Joanna Smithback

If red light has a frequency of 4.28 x 10[sup]14[/sup] Hz, what is the wavelength of this light?(1 Hz = 1 cycle per second; speed of light = 3.0 x 10[sup]8[/sup] m/s; 1 nm = 1.0 x 10[sup]-9[/sup] m)

Please choose only one answer:

- 0.650 nm
- 2.10 nm
- 65.0 nm
- 700 nm

4.1.2. If the frequency is observed to be 1.00 x 10[sup]12[/sup] Hz for a ...

Author: Joanna Smithback

If the frequency is observed to be 1.00 x 10[sup]12[/sup] Hz for a microwave signal, what is the wavelength of this radiation in centimeters? (1 Hz = 1 cycle per second; speed of light = 3.0 x 10[sup]8[/sup] m/s; 1 cm = 1.0 x 10[sup]-2[/sup] m)

Please choose only one answer:

- 3.00 x 10[sup]-4[/sup] cm
- 3.00 x 10[sup]-2[/sup] cm
- 3.34 cm
- 3340 cm

4.1.3. If the wavelength of ultraviolet light is 125 nanometers, what is t...

Author: Joanna Smithback

If the wavelength of ultraviolet light is 125 nanometers, what is the energy of one quantum of this radiation? (1 Hz = 1 cycle per second; speed of light = 3.0 x 10[sup]8[/sup] m/s; 1 nm = 1.0 x 10[sup]-9[/sup] m; h = Planck's constant = 6.6261 x 10[sup]-34[/sup] J • s)

Please choose only one answer:

- 6.19 x 10[sup]-14[/sup] J
- 1.59 x 10[sup]-18[/sup] J
- 3.60 x 10[sup]-23[/sup] J
- 9.24 x 10[sup]-40[/sup] J

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4.1.4. What element has the electron configuration 1s[sup]2[/sup] 2s[sup]2...

Author: Joanna Smithback

What element has the electron configuration 1s[sup]2[/sup] 2s[sup]2[/sup] 2p[sup]6[/sup] 3s[sup]2[/sup] 3p[sup]4[/sup]?

Please choose only one answer:

- O
- S
- Se
- Si

4.1.5. What element has the electron configuration 1s[sup]2[/sup] 2s[sup]2...

Author: Joanna Smithback

What element has the electron configuration 1s[sup]2[/sup] 2s[sup]2[/sup] 2p[sup]6[/sup] 3s[sup]2[/sup] 3p[sup]6[/sup] 4s[sup]2[/sup] 3d[sup]10[/sup] 4p[sup]3[/sup]?

Please choose only one answer:

- Ga
- P
- V
- As

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4.1.6. What element has the electron configuration [Rn] 5f[sup]3[/sup] 6d[...

Author: Joanna Smithback

What element has the electron configuration [Rn] 5f[sup]3[/sup] 6d[sup]1[/sup] 7s[sup]2[/sup]?

Please choose only one answer:

- U
- Nd
- Ta
- Bi

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4.1.7. What element has the electron configuration [Xe] 4f[sup]14[/sup] 5d...

Author: Joanna Smithback

What element has the electron configuration [Xe] 4f[sup]14[/sup] 5d[sup]10[/sup] 6s[sup]2[/sup] 6p[sup]2[/sup]?

Please choose only one answer:

- Hf
- Pb
- Lu
- Sn

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4.1.8. What is the correct electron configuration for the tin (II) ion?

Author: Joanna Smithback

What is the correct electron configuration for the tin (II) ion?

Please choose only one answer:

- [Kr] 5s[sup]2[/sup] 5p[sup]2[/sup] 4d[sup]10[/sup]
- [Kr] 5s[sup]2[/sup] 5p[sup]2[/sup] 4d[sup]8[/sup]
- [Kr] 5s[sup]2[/sup] 4d[sup]10[/sup]
- [Kr] 5p[sup]2[/sup] 4d[sup]10[/sup]

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4.1.9. What is the electron configuration of Br[sup]-[/sup]?

Author: Joanna Smithback

What is the electron configuration of Br[sup]-[/sup]?

Please choose only one answer:

- [Ar] 4s[sup]2[/sup] 4p[sup]5[/sup]
- [Ar] 4s[sup]2[/sup] 4p[sup]6[/sup]
- [Kr] 4s[sup]2[/sup] 4p[sup]6[/sup]
- [Kr]

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4.1.10. What is the electron configuration of Se[sup]2-[/sup]?

Author: Joanna Smithback

What is the electron configuration of Se[sup]2-[/sup]?

Please choose only one answer:

- [Ar] 4s[sup]2[/sup] 4p[sup]6[/sup]
- [Ar] 4s[sup]2[/sup] 4p[sup]8[/sup]
- [Ar] 4s[sup]2[/sup] 3d[sup]10[/sup] 4p[sup]6[/sup]
- [Ar]

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4.1.11. What is the frequency in megahertz of a radio set that is broadcast...

Author: Joanna Smithback

What is the frequency in megahertz of a radio set that is broadcasting at 99.9 meters?(1 Hz = 1 cycle per second; speed of light = 3.0 x 10[sup]8[/sup] m/s; 1 nm = 1.0 x 10[sup]-9[/sup] m)

Please choose only one answer:

- 3.00 MHz
- 15.7 MHz
- 33.3 MHz
- 299 MHz

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4.1.12. What is the frequency in megahertz of a radio station that broadcas...

Author: Joanna Smithback

What is the frequency in megahertz of a radio station that broadcasts at a wavelength of 325 centimeters? (1 MHz = 1.00 x 10[sup]6[/sup] cycles per second; 1 Hz = 1 cycle per second; speed of light = 3.0 x 10[sup]8[/sup] m/s; 1 cm = 1.0 x 10[sup]-2[/sup] m)

Please choose only one answer:

- 22.1 MHz
- 67.1 MHz
- 92.2 MHz
- 108 MHz

Check the answer of this question online at QuizOver.com:
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4.1.13. Which noble gas symbol would be used for the noble gas notation for...

Author: Joanna Smithback

Which noble gas symbol would be used for the noble gas notation for the electron configuration of the element platinum?

Please choose only one answer:

- Ar
- Kr
- Xe
- Rn

4.1.14. Which of the following answers gives the correct number of subatomi...

Author: Joanna Smithback

Which of the following answers gives the correct number of subatomic particles contained in the carbon-13 isotope?

Please choose only one answer:

- 6 protons, 6 neutrons, 6 electrons
- 6 protons, 7 neutrons, 6 electrons
- 7 protons, 7 neutrons, 6 electrons
- 6 protons, 7 neutrons, 7 electrons

4.1.15. Which of the following elements has three unpaired electrons when i...

Author: Joanna Smithback

Which of the following elements has three unpaired electrons when it is a +2 ion?

Please choose only one answer:

- zinc
- strontium
- zirconium
- cobalt

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4.1.16. Which of the following elements is a d-block element?

Author: Joanna Smithback

Which of the following elements is a d-block element?

Please choose only one answer:

- copper
- chlorine
- aluminum
- sodium

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4.1.17. Which of the following has the longest wavelength?

Author: Joanna Smithback

Which of the following has the longest wavelength?

Please choose only one answer:

- blue light
- red light
- yellow light
- green light

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4.1.18. Which of the following is expected to have the largest radius?

Author: Joanna Smithback

Which of the following is expected to have the largest radius?

Please choose only one answer:

- P[sup]3-[/sup]
- S[sup]2-[/sup]
- Cl[sup]-[/sup]
- Ar

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4.1.19. Which of the following is expected to have the smallest radius?

Author: Joanna Smithback

Which of the following is expected to have the smallest radius?

Please choose only one answer:

- S[sup]2-[/sup]
- K[sup]+[/sup]
- Cl[sup]-[/sup]
- Ca[sup]2+[/sup]

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4.1.20. Which of the following is the written name for an isotope that has ...

Author: Joanna Smithback

Which of the following is the written name for an isotope that has 108 neutrons, 73 protons, and 73 electrons?

Please choose only one answer:

- [sup]181[/sup]Ta
- [sup]108[/sup]Ta
- [sup]73[/sup]Ta
- [sup]146[/sup]Ta

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4.1.21. Which of the following produces radiation with the highest frequency?

Author: Joanna Smithback

Which of the following produces radiation with the highest frequency?

Please choose only one answer:

- microwave oven
- AM radio
- radar
- FM radio

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Question: Which of the following produces radiation Joanna Smithback @Saylor

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4.1.22. Which type of element below has atomic sizes that remain almost ide...

Author: Joanna Smithback

Which type of element below has atomic sizes that remain almost identical across a period?

Please choose only one answer:

- main group metals
- main group nonmetals
- transition metal elements
- none of the above

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