Name : _____ Date : _____

Practicing Electron Configuration

1. In the space below, write the **unabbreviated** electron configuration of the following elements.

i. Sodium _____

ii. Iron _____

iii. Bromine _____

iv. Barium _____

v. Radium _____

2. In the space below, write the **abbreviated** electron configuration of the following elements.

i. Cobalt _____

ii. Silver _____

iii. Tellurium _____

iv. Radium _____

v. Lawrencium _____

3. Determine what elements are denoted by the following electron configuration.

i. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^4$: _____

ii. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^{10}\ 4p^6\ 5s^1$: _____

iii. $[Kr]\ 5s^2\ 4d^{10}\ 5p^3$: _____

iv. $[Xe]\ 6s^2\ 4f^{14}\ 5d^6$: _____

v. $[Rn]\ 7s^2\ 5f^{11}$: _____

4. Answer the following questions

i. What is the shape of an s orbital? _____

ii. How many s orbitals can there be in an energy level? _____

iii. How many electrons can occupy an s orbital? _____

iv. What is the shape of a p orbital? _____

v. How many p orbitals can there be in an energy level? _____

Name : _____ Date : _____

Practicing Electron Configuration

Answers

1. In the space below, write the **unabbreviated** electron configuration of the following elements.

i. Sodium $1s^2\ 2s^2\ 2p^6\ 3s^1$

ii. Iron $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^6$

iii. Bromine $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^{10}\ 4p^5$

iv. Barium $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^{10}\ 4p^6\ 5s^2\ 4d^{10}\ 5p^6\ 6s^2$

v. Radium $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^{10}\ 4p^6\ 5s^2\ 4d^{10}\ 5p^6\ 6s^2\ 4f^{14}\ 5d^{10}\ 6p^6\ 7s^2$

2. In the space below, write the **abbreviated** electron configuration of the following elements.

i. Cobalt $[Ar]\ 3d^7\ 4s^2$

ii. Silver $[Kr]\ 4d^{10}\ 5s^1$

iii. Tellurium $[Kr]\ 4d^{10}\ 5s^2\ 5p^4$

iv. Radium $[Rn]\ 7s^2$

v. Lawrencium $[Rn]\ 5f^{14}\ 7s^2\ 7p^1$

3. Determine what elements are denoted by the following electron configuration.

i. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^4$: Sulfur

ii. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2\ 3d^{10}\ 4p^6\ 5s^1$: Rubidium

iii. $[Kr]\ 5s^2\ 4d^{10}\ 5p^3$: Antimony

iv. $[Xe]\ 6s^2\ 4f^{14}\ 5d^6$: Osmium

v. $[Rn]\ 7s^2\ 5f^{11}$: Einsteinium

4. Answer the following questions

i. What is the shape of an s orbital? Sulfur

ii. How many s orbitals can there be in an energy level? One

iii. How many electrons can occupy an s orbital? Two

iv. What is the shape of a p orbital? Dumb-bell

v. How many p orbitals can there be in an energy level? Three