Chemistry 115 Name

Dr. Cary Willard

Quiz 6a (20 points) April 2, 2014

1. (6 points) Write and balance the double displacement reaction that occurs between sodium phosphate and magnesium chloride. Remember that phosphates are generally insoluble and chlorides are generally soluble.

Na3PO4(aq) + MgCl2(aq) 🡪

2 Na3PO4(aq) + 3 MgCl2(aq) 🡪 6 NaCl(aq) + Mg3(PO4)2(s)

1. (4 points) How does an orbit differ from an orbital?

An orbit refers to the circular path that was originally proposed for an electrons location. An orbital is the refinement of that theory that instead proposes that an electron exists in a particular region in space called an orbital.

1. (2 points) How many electrons can occupy a 6p orbital?

Only 2 electrons can occupy any orbital.

1. (4 points) What is the complete electron configuration of an atom of silicon?

1s2 2s2 2p6 3s2 3p2

1. (4 points) What is the shorthand electron configuration of an atom of cadmium (Cd)?

[Kr] 5s2 4d10

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Quiz 6b (20 points) April 2, 2014

1. (6 points) Write and balance the double displacement reaction that occurs between potassium hydroxide and aluminum chloride. Remember that hydroxides are generally insoluble and chlorides are generally soluble.

KOH(aq) + AlCl3(aq) 🡪

3 KOH(aq) + AlCl3(aq) 🡪 3 KCl(aq) + Al(OH)3(s)

1. (4 points) How does an orbit differ from an orbital?

An orbit refers to the circular path that was originally proposed for an electrons location. An orbital is the refinement of that theory that instead proposes that an electron exists in a particular region in space called an orbital.

1. (2 points) How many electrons can occupy a 5f orbital?

Only 2 electrons can occupy any orbital.

1. (4 points) What is the complete electron configuration of an atom of sulfur?

1s2 2s2 2p6 3s2 3p4

1. (4 points) What is the shorthand electron configuration of an atom of iron (Fe)?

[Ar] 4s2 3d6

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Quiz 6c (20 points) April 2, 2014

1. (6 points) Write and balance the double displacement reaction that occurs between lithium carbonate and iron(III) bromide. Remember that carbonates are generally insoluble and bromides are generally soluble.

Li2CO3(aq) + FeBr3(aq) 🡪

3 Li2CO3(aq) + 2 FeBr3(aq) 🡪 6 LiBr(aq) + Fe2(CO3)3(s)

1. (4 points) How does an orbit differ from an orbital?

An orbit refers to the circular path that was originally proposed for an electrons location. An orbital is the refinement of that theory that instead proposes that an electron exists in a particular region in space called an orbital.

1. (2 points) How many electrons can occupy a 7d orbital?

Only 2 electrons can occupy any orbital.

1. (4 points) What is the complete electron configuration of an atom of phosphorus?

1s2 2s2 2p6 3s2 3p3

1. (4 points) What is the shorthand electron configuration of an atom of zirconium (Zr)?

[Kr] 5s2 4d2

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Quiz 6d (20 points) April 2, 2014

1. (6 points) Write and balance the double displacement reaction that occurs between potassium phosphate and barium iodide. Remember that phosphates are generally insoluble and chlorides are generally soluble.

K3PO4(aq) + BaI2(aq) 🡪

2 K3PO4(aq) + 3 BaI2(aq) 🡪 6 KI(aq) + Ba3(PO4)2(s)

1. (4 points) How does an orbit differ from an orbital?

An orbit refers to the circular path that was originally proposed for an electrons location. An orbital is the refinement of that theory that instead proposes that an electron exists in a particular region in space called an orbital.

1. (2 points) How many electrons can occupy a 3p orbital?

Only 2 electrons can occupy any orbital.

1. (4 points) What is the complete electron configuration of an atom of chlorine?

1s2 2s2 2p6 3s2 3p5

1. (4 points) What is the shorthand electron configuration of an atom of vanadium (V)?

[Ar] 4s2 3d3