Student Name: _____ Date: _____

Lesson Check: Oxidation and Reduction

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1) The most electronegative atom in a compound has a charge that is _____.

- ○ zero
- ○ positive
- ○ neutral
- ○ negative

2) Which of the elements is the strongest oxidizing agent?

- ○ oxygen
- ○ iodine
- ○ fluorine
- ○ chlorine

3) Determine the oxidation number of the boldface element in these ions.

a. $\mathbf{I}O_4^-$

b. $\mathbf{Mn}O_4^-$

c. $\mathbf{B}_4O_7^{2-}$

d. $\mathbf{N}H_2^-$

4) Explain how the sulfite ion (SO_3^{2-}) differs from sulfur trioxide (SO_3).

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5) In a reaction, more than one element can be oxidized or reduced. In terms of oxidation and reduction, explain what happens in the following reaction.

$2H_2S(g) + SO_2(g) \rightarrow 3S(s) + 2H_2(g) + O_2(g)$

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Lesson Check: Measuring Matter

1) Determine the number of atoms in 3.54 mol Mn.

2) Fill in the blanks using the available answer choices.

Which of the following counting units would be appropriate for counting:

sheets of paper sold at a store?	_____ (Blank 1)
atoms and molecules?	_____ (Blank 2)
cookies?	_____ (Blank 3)
gloves?	_____ (Blank 4)

Blank 1 options	Blank 2 options	Blank 3 options	Blank 4 options
• dozen	• dozen	• dozen	• dozen
• ream	• ream	• ream	• ream
• mole	• mole	• mole	• mole
• pair	• pair	• pair	• pair

3) Explain how measuring 6.00 g of carbon-12 indirectly counts one-half Avogadro's number of carbon-12 atoms.

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Lesson Check: Measuring Matter

4) Determine the number of representative particles in each substance.

a. **4.45 mol of $C_6H_{12}O_6$**

b. **0.250 mol of KNO_3**

c. **2.24 mol of H_2**

d. **9.56 mol of Zn**

5) Determine the number of moles in each substance.

a. **3.25×10^{20} atoms of lead**

b. **4.96×10^{24} molecules of glucose**

c. **1.56×10^{23} formula units of sodium hydroxide**

d. **1.25×10^{25} copper(II) ions**