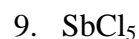
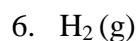
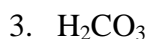
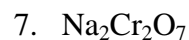


Name: \_\_\_\_\_

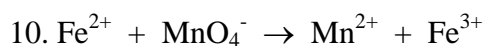
Period: \_\_\_\_\_

### Oxidation-Reduction and Electrochemistry Exam Review

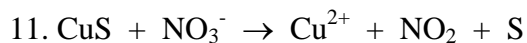
Assign each element in the following compounds its correct oxidation #.



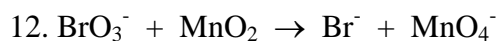
Assign Oxidation #'s to each element in the following equations. Identify the element that is oxidized, the element that is reduced, the oxidizing agent and the reducing agent.



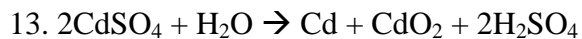
Oxidized _____	Reduced _____
Oxidizing agent _____	Reducing Agent _____



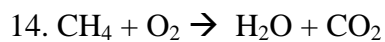
Oxidized _____	Reduced _____
Oxidizing agent _____	Reducing Agent _____



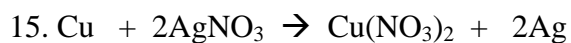
Oxidized _____	Reduced _____
Oxidizing agent _____	Reducing Agent _____



Oxidized _____	Reduced _____
Oxidizing agent _____	Reducing Agent _____



Oxidized _____	Reduced _____
Oxidizing agent _____	Reducing Agent _____



Oxidized _____	Reduced _____
Oxidizing agent _____	Reducing Agent _____

**Fill in the blanks:** Oxidation reduction reactions involve the movement of \_\_\_\_\_ from one atom to another. The substance that loses electrons is \_\_\_\_\_ and the substance that \_\_\_\_\_ electrons is reduced. When an atom loses electrons, it takes on a \_\_\_\_\_ charge. Some elements lose electrons more easily than others. \_\_\_\_\_ metals tend to easily lose electrons and take on a +1 charge. Jewelry metals are not very reactive because they do not tend to lose \_\_\_\_\_. Halogens are more easily \_\_\_\_\_ than oxidized. That means that they \_\_\_\_\_ electrons. An element's oxidation number describes how many electrons it has lost or gained. When an element is in its standard state, its oxidation number is \_\_\_\_\_. During any redox reaction, one element \_\_\_\_\_ electrons and another \_\_\_\_\_ electrons. These half-reactions can be linked together to form a \_\_\_\_\_ cell, or battery. The half reactions are connected by a \_\_\_\_\_, or solution of ions that regulates \_\_\_\_\_ in the battery. The electrons in a voltaic cell flow from the \_\_\_\_\_ to the \_\_\_\_\_. The \_\_\_\_\_ of the battery can be found by adding up the potential values of each half cell. The charge of the battery is measured in units of \_\_\_\_\_.

16. A student wants to design a battery with copper and zinc metals and metal solutions.

- Which of these two metals is most easily oxidized? \_\_\_\_\_
- Which of these two metals is most easily reduced? \_\_\_\_\_
- Using your table of reduction potentials in your notes, write the oxidation and reduction half reactions below along with their voltage potentials. (Don't forget to flip the oxidation half reaction. Also, use the copper reaction that involved two electrons.)

- Oxidation reaction \_\_\_\_\_  $E^0 =$  \_\_\_\_\_
- Reduction reaction \_\_\_\_\_  $E^0 =$  \_\_\_\_\_

- What is the total charge of the cell? \_\_\_\_\_
- Draw a salt bridge and wire to complete the diagram below. Label the anode and the cathode. Indicate the direction the electrons would flow in the wire with arrows.

