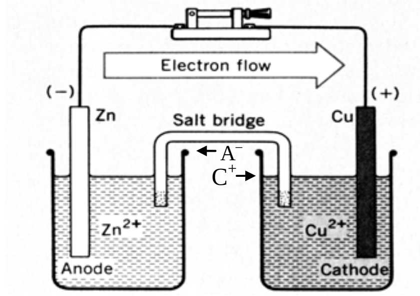
Explain why, in galvanic cells, the cathode is positive?	Galvanic cells spontaneously produce electricity. The negative electrode acquires electrons that are lost from metal atoms as they become positive ions. This is oxidation (LEO). Thus, the negative electrode is the anode (the anode, by definition is the site of oxidation). If the negative electrode is the anode, then the positive electrode must be the cathode.
Diagram the Zn-Cu galvanic cell. List all important aspects of the cell.	 A^- = anion movement in salt bridge C^+ = cation movement in salt bridge $Zn(s) \rightarrow Zn^{2+}(aq) + 2e^-$ $Cu^{2+}(aq) + 2e^- \rightarrow Cu(s)$ Cell reaction: $Zn(s) + Cu^{2+}(aq) \rightarrow Zn^{2+}(aq) + Cu(s)$
What is a salt bridge? What is its function?	A salt bridge is a connection between the two half cells of a galvanic cell. It contains ions (e.g. K^+ and NO_3^-). The ions are essential to the function of the galvanic cell. As the half-cell ions decrease or build up, the ions of the salt bridge move into the half-cells to maintain electric neutrality.

17.6

Define cell potential.	The maximum emf (electrical force in volts) of a galvanic cell.
How can cell potential be increased?	By increasing the concentration of ions in half-cells, changing the composition of electrodes, or by connecting half-cells in series.
How can the direction of electron flow between half-cells be predicted?	By referring to a chart of standard reduction potentials.
What is meant by reduction potential?	The tendency of a half-cell to attract electrons (i.e. the tendency to be reduced).
What is meant by standard reduction potential? How is it symbolized?	The reduction potential of a half-cell under standard conditions (25°C, 1 atm, and ions at a concentration of 1 *M*). Symbol: $E°$
Why can't standard reduction potentials be measured? How is this problem overcome?	Half-cells do not conduct electricity until combined with another half-cell. Thus, standard reduction potentials are expressed relative to a reference electrode (the hydrogen/platinum electrode).
Give the half reaction for the hydrogen reference electrode.	$2H^+(aq) + 2e^- \leftrightarrow H_2(g)$
>What is the significance of ↔	The reaction could proceed in either direction, depending on whether the reaction is oxidation or reduction. Note: it does not mean that an equilibrium exists.
What is a cell potential? Give its symbol.	A cell potential is the potential difference between two half-cells. In other words, it is the magnitude of difference between standard reduction potentials. Symbol: $E°_{cell}$
Give the equation for calculating cell potential.	$E°_{cell}$ = ($E°$ of reduction) – ($E°$ of oxidation)
> What is an easy way to remember this equation?	$E°_{cell}$ = (larger $E°$) – (smaller $E°$) In other words, $E°_{cell}$ is always positive.

Review examples 17.6, 17.7, 17.8 (pg. 715-717)