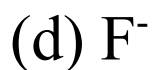
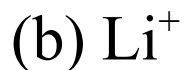
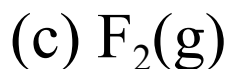


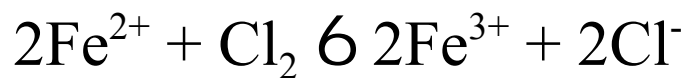
Which redox reaction is balanced?



According to *Reference Table N*, which species is the weakest reducing agent?



Which is the oxidizing agent in the reaction:

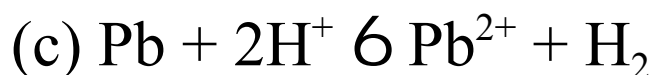
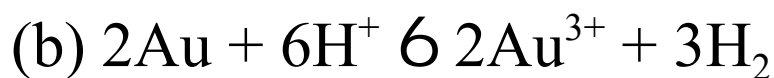
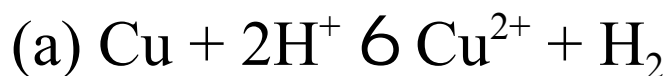


- (a) Fe^{2+} (c) Fe^{3+}
(b) Cl_2 (d) Cl^-

Which ion can be both an oxidizing agent and a reducing agent?

- (a) Sn^{2+} (c) Al^{3+}
(b) Cu^{2+} (d) Fe^{3+}

Which reaction will take place spontaneously?



Given the reaction:



When the equation is completely balanced using smallest whole numbers, the coefficient of the MnO_4^- will be

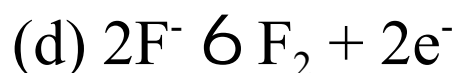
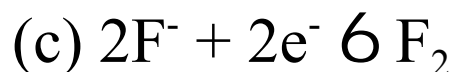
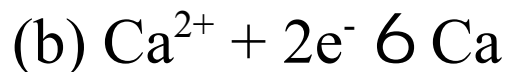
(a) 1

(c) 3

(b) 2

(d) 4

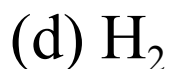
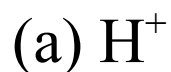
Which half-reaction correctly represents reduction?



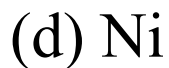
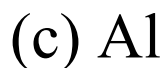
Given the reaction:



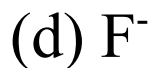
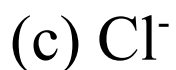
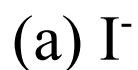
Which particle is the reducing agent?



According to *Reference Table N*, which species can reduce Cr^{3+} ions?



Based on *Reference Table N*, which of the following ions in aqueous solution is most easily oxidized?



In the reaction:



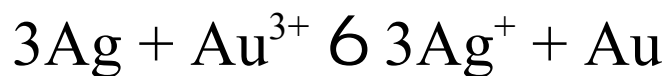
copper is

- (a) reduced and is the oxidizing agent
- (b) reduced and is the reducing agent
- (c) oxidized and is the oxidizing agent
- (d) oxidized and is the reducing agent

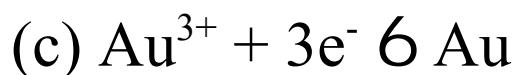
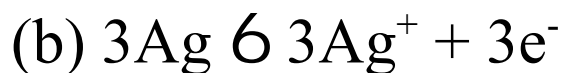
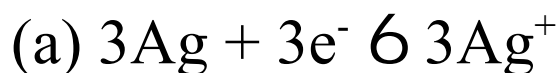
According to *Reference Table N*, which ion will react spontaneously with Ag?



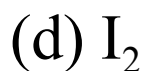
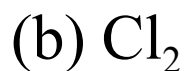
Given the reaction:



Which equation correctly represents the oxidation half-reaction?



According to *Reference Table N*, which molecule is most easily reduced?



Given the reaction:



When the equation is completely balanced using smallest whole numbers, the coefficient of H_3PO_4 will be

- | | |
|-------|-------|
| (a) 1 | (c) 3 |
| (b) 2 | (d) 4 |

Given the reaction:



When the equation is completely balanced using smallest whole numbers, the coefficient of Fe^{2+} will be

- | | |
|-------|-------|
| (a) 7 | (c) 5 |
| (b) 6 | (d) 4 |

According to Reference Table N, which species can reduce Fe^{3+} to Fe^{2+} ?

(a) Au(s)

(c) Br^-

(b) Ag(s)

(d) I^-

Based on *Reference Table N*, which metal will react with water liberating hydrogen gas?

(a) Li

(c) Hg

(b) Ni

(d) Sn