B1 · Extra practice

Original diploma-style practice | Items 1-2

Extra practice for this lesson. Original questions, not released diploma items. Select one option for multiple choice; other tasks state the required response.

Use the givens and conditions in each prompt. Enter the requested count, coefficient, oxidation number or potential with the stated unit and precision.

B1-D01 · Multiple choice

For the change $Fe^{3+} + e^{-} \rightarrow Fe^{2+}$, which statement is correct?

A. It is an oxidation, because the product is positive
B. It is a reduction, because an electron is gained
C. It is an oxidation, because the charge goes down
D. It is neither, because both particles are ions

Response: _____

B1-D02 · Multiple choice

Given $Zn + Cu^{2+} \rightarrow Zn^{2+} + Cu$, which reactant is the reducing agent?

A. Cu
B. Zn^{2+}
C. Cu^{2+}
D. Zn

Response: _____

B1 · Extra practice

Original diploma-style practice | Items 3-4

B1-D03 · Numerical response

A neutral atom with 13 protons loses three electrons. How many electrons does it have now? Enter a whole number.

Response: _____

B1-D04 · Select all that apply

Select every statement that is correct for $Mg + 2Ag^{+} \rightarrow Mg^{2+} + 2Ag$.

A. Mg is oxidized
B. Ag^{+} gains electrons
C. Mg^{2+} is the reducing agent
D. Each Mg atom gives two electrons

Response: _____

B1 · Extra practice

Original diploma-style practice | Items 5-6

B1-D05 · Matching

Match each description to its redox word. Each word is used once.

Items to match:

1. Losing electrons
2. Gaining electrons
3. The reactant that lets its partner be reduced

Targets:

A. Reduction
B. Reducing agent
C. Oxidation

Response: _____

B1-D06 · Ordering / ranking

Put these actions in order for naming the agents in a reaction. Use each action once.

First to last

1. Name the reducing agent and the oxidizing agent
2. Follow each reactant to its product
3. Find which one loses electrons and which one gains them

Response: _____

B1 · Extra practice

Original diploma-style practice | Items 7-8

B1-D07 · Multiple choice

Which of these is not redox?

A. $Zn \rightarrow Zn^{2+} + 2e^-$
B. $Cu^{2+} + 2e^- \rightarrow Cu$
C. $KCl(s) \rightarrow K^+(aq) + Cl^-(aq)$
D. $2Na + Cl_2 \rightarrow 2NaCl$

Response: _____

B1-D08 · Numerical response

For $Zn \rightarrow Zn^{2+} + ne^-$, find n so that the charge balances. Enter a whole number.

Response: _____

B1 · Extra practice

Original diploma-style practice | Items 9-10

B1-D09 · Multiple choice

One aluminium atom loses three electrons. Three Ag^+ ions each gain one electron. Which net equation shows this?

A. $Al + Ag^+ \rightarrow Al^{3+} + Ag$

B. $Al + 3Ag^+ \rightarrow Al^{3+} + 3Ag$

C. $3Al + Ag^+ \rightarrow 3Al^{3+} + Ag$

D. $Al^{3+} + 3Ag \rightarrow Al + 3Ag^+$

Response: _____

B1-D10 · Written response

A student says every reaction that shows charged particles is redox. Give one example that proves the student wrong. Say which test shows it.

Response: _____

B1 · Extra practice

Original diploma-style practice | Items 11-12

B1-D11 · Multiple choice

For $Fe^{2+} + Ag^{+} \rightarrow Fe^{3+} + Ag$, which particle gives an electron and which takes it? Choose the pair in this order: reducing agent; oxidizing agent.

A. Fe^{3+}; Ag
B. Ag^{+}; Fe^{2+}
C. Fe^{2+}; Ag^{+}
D. Ag; Fe^{3+}

Response: _____

B1-D12 · Select all that apply

Select every check that $Zn + 2Ag^{+} \rightarrow Zn^{2+} + 2Ag$ must pass to be a balanced net ionic equation.

A. One Zn and two Ag atoms on each side
B. The same total charge on both sides
C. Every particle on each side is neutral
D. Electrons lost equal electrons gained

Response: _____