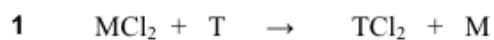


Chemical Reactions & Equations

2009

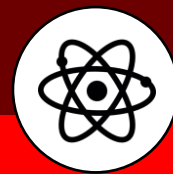
- 14 The order of reactivity of four elements is $J > M > Q > T$ i.e. J is the most reactive and T the least reactive.

A series of reactions are given below:



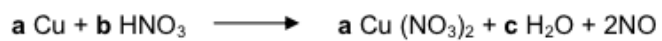
Which three reactions could take place?

- A 1, 2 and 3
B 2, 3 and 4
C 4, 5 and 6
D 1, 4 and 6



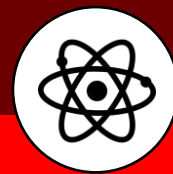
Chemical Reactions & Equations

18 The equation for the preparation of nitrogen monoxide is:



What is the value of **b**?

- A 2
- B 4
- C 6
- D 8
- E 12
- F 16

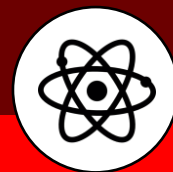


2010

14 Which of the following ionic equations are correct?

- 1 $X^+ + e^- \rightarrow X$
- 2 $X^- - e^- \rightarrow X$
- 3 $O^{2-} + 2e^- \rightarrow O$
- 4 $O^{2-} - e^- \rightarrow O_2$
- 5 $2I^- - 2e^- \rightarrow I$
- 6 $Ca^{2+} + 2e^- \rightarrow Ca$

- A 1, 2 and 6
- B 1, 3 and 5
- C 1, 4 and 5
- D 2, 3 and 6
- E 2, 4 and 5
- F 3, 4 and 6

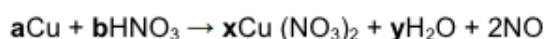


Chemical Reactions & Equations

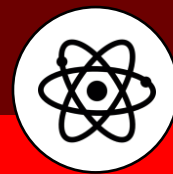
2011

- 18 Nitrogen Monoxide is prepared by reacting copper with nitric acid.

What should the values of a, b, x and y be in order to balance the following equation?



- A a = 2, b = 4, x = 2, y = 2
- B a = 6, b = 16, x = 6, y = 8
- C a = 1, b = 4, x = 1, y = 2
- D a = 4, b = 10, x = 4, y = 5
- E a = 3, b = 8, x = 3, y = 4
- 26 An impurity in petroleum is dimethylsulphide, CH_3SCH_3 . When dimethylsulphide is burnt in an excess of air, which one of the following balanced equations represents the reaction that takes place?
- A $\text{CH}_3\text{SCH}_3 + 3\text{O}_2 \rightarrow 2\text{CO}_2 + 2\text{H}_2\text{O} + \text{H}_2\text{S}$
- B $2\text{CH}_3\text{SCH}_3 + 7\text{O}_2 \rightarrow 4\text{CO}_2 + 6\text{H}_2\text{O} + 2\text{S}$
- C $4\text{CH}_3\text{SCH}_3 + 12\text{O}_2 \rightarrow 6\text{CO}_2 + 12\text{H}_2\text{O} + 2\text{CS}_2$
- D $2\text{CH}_3\text{SCH}_3 + 7\text{O}_2 \rightarrow 4\text{CO} + 6\text{H}_2\text{O} + 2\text{SO}_2$
- E $2\text{CH}_3\text{SCH}_3 + 9\text{O}_2 \rightarrow 4\text{CO}_2 + 6\text{H}_2\text{O} + 2\text{SO}_2$



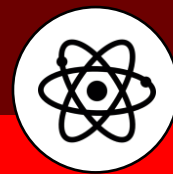
2012

- 10 Inorganic builders are put into detergents to act as a buffer, i.e. to keep the pH close to 7. Sodium tripolyphosphate is a major one used. The equation for its formation is shown below:



What are the values of **a**, **b**, **c** and **d**?

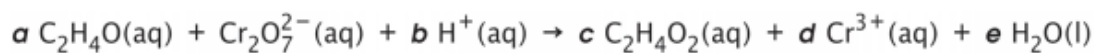
- A 3, 1, 1, 3
- B 6, 2, 2, 7
- C 2, 4, 2, 2
- D 1, 2, 1, 2
- E 2, 2, 1, 2



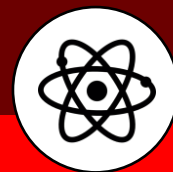
Chemical Reactions & Equations

2013

- 22 By using standard techniques to balance chemical equations and ensuring that the net charge is equal on both sides, find the correct value for 'e' in the balanced equation below:



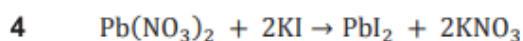
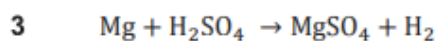
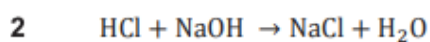
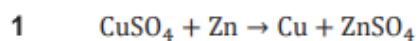
- A 1
- B 2
- C 4
- D 6
- E 8



Chemical Reactions & Equations

2014

2 Which of the following reactions are redox reactions?



A 1 and 2 only

B 1 and 3 only

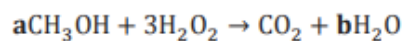
C 1 and 4 only

D 2 and 3 only

E 2 and 4 only

F 3 and 4 only

10 Methanol can be oxidised by hydrogen peroxide to produce carbon dioxide and water.



What is the value of **b** when this equation is balanced?

A 3

B 4

C 5

D 6

E 7