1 The standard reduction potential of O2 at 25 C is Eo = 1.229. Estimate the reduction potential at pH = 0.

A E = 1.229
B E = 1.229 - 0.059 x (-7)
C E = 1.229 - 0.059 x 7 x 4
D E = 1.229 - 0.059 x 7

2 The standard reduction potential of O2 at 25 C is Eo = 1.229. Estimate the reduction potential at pH = 7.

A E = 1.229
B E = 1.229 - 0.059 x (-7)
C E = 1.229 - 0.059 x 7 x 4
D E = 1.229 - 0.059 x 7

3 What do you expect to be true about the process Cl-(0.0001 M) <--> Cl-(1 M)?

A G > 0
B G < 0
C G = 0
D More information needed.

4 What do you expect to be true about the process Cl-(0.0001 M) <--> Cl-(1 M)?

A E > 0
B E < 0
C E = 0
D More information needed.

5 What do you expect to be true about the process Cl-(0.0001 M) <--> Cl-(1 M)?

A E0 > 0
B E0 < 0
C E0 = 0
D More information needed.

6 The process Cl-(1 M) <--> Cl-(0.0001 M) is spontaneous. Which is the anode half reaction?

A 2 Cl-(0.0001 M) <--> Cl2(1 atm) + 2 e-
B Cl2(1 atm) + 2 e- <--> 2 Cl-(0.0001 M)
C 2 Cl-(1 M) <--> Cl2(1 atm) + 2 e-
D Cl2(1 atm) + 2 e- <--> 2 Cl-(1 M)

7 The process Cl-(1 M) <--> Cl-(0.0001 M) is spontaneous. Which is the cathode half reaction?

A 2 Cl-(0.0001 M) <--> Cl2(1 atm) + 2 e-
B Cl2(1 atm) + 2 e- <--> 2 Cl-(0.0001 M)
C 2 Cl-(1 M) <--> Cl2(1 atm) + 2 e-
D Cl2(1 atm) + 2 e- <--> 2 Cl-(1 M)

8 The process Cl-(1 M) <--> Cl-(0.0001 M) is spontaneous. Which one is the cell diagram?

A Cl-(0.0001 M)|Cl2(1 atm)|| Cl-(1 M)|Cl2(1 atm)
B Cl-(0.0001 M)|Cl2(1 atm)|| Cl2(1 atm)|Cl-(1 M)
C Cl-(1 M)|Cl2(1 atm)|| Cl-(0.0001 M)|Cl2(1 atm)
D Cl-(1 M)|Cl2(1 atm)||Cl2(1 atm)|Cl-(0.0001 M)

9 What is the the potential for the cell
Cl-(1 M)|Cl2(1 atm)||Cl2(1 atm)|Cl-(0.0001 M)

A E = - 0.12
B E = - 0.24
C E = + 0.24
D E = + 0.12