1 When a reaction takes place in aqueous solution, the solution is part of the ...

A system.
B surroundings.
C neither the system nor the surroundings.
D both the system nor the surroundings.

2 An endothermic reaction in aqueous solution ...

A cools the solution.
B heats the solution.
C does not affect the solution.

3 Compared to the cooling when an endothermic reaction takes place in an open container, when the reaction takes placed in a sealed, rigid container, ...

A the cooling will be greater.
B the cooling will be the same.
C the cooling will be smaller.
D More information needed

4 What is true about the following reaction?

$NaHCO_3(s) + H_3O^+(aq) \rightarrow CO_2(g) + Na^+(aq) + 2\ H_2O(l)$

A Should be exothermic.
B Should be endothermic.
C Unable to say without further information.

5 What is true about the following in an *open* beaker?

$NaHCO_3(s) + H_3O^+(aq) \rightarrow CO_2(g) + Na^+(aq) + 2\ H_2O(l)$

A It does work on the surroundings, $w < 0$.
B The surroundings does work on the reaction, $w > 0$.
C No work is done, $w = 0$.
D Unable to say without further information.

6 What is true about the following in a *sealed* beaker?

$NaHCO_3(s) + H_3O^+(aq) \rightarrow CO_2(g) + Na^+(aq) + 2\ H_2O(l)$

A It does work on the surroundings, $w < 0$.
B The surroundings does work on the reaction, $w > 0$.
C No work is done, $w = 0$.
D Unable to say without further information.

7 If a reaction is exothermic, as the reaction proceeds ...

A the reaction solution should get colder.
B the reaction solution should get warmer.
C there should be no change in the temperature of the reaction solution.
D Unable to say without further information.

8 If a reaction is endothermic, as the reaction proceeds ...

A the reaction solution should get colder.
B the reaction solution should get warmer.
C there should be no change in the temperature of the reaction solution.
D Unable to say without further information.

9 If a reaction is exothermic, and work is done on it ($w > 0$), typically because a gas is *consumed* as the reaction proceeds, ...

A the reaction solution should get less warm than if no work were done.
B the reaction solution should get warmer than if no work were done.
C there should be no change in the warming compared with the $w = 0$ case.
D Unable to say without further information.

10 If a reaction is endothermic, and it does work ($w < 0$), typically because a gas is *formed* as the reaction proceeds, ...

A the reaction solution should get less cold than if no work were done.
B the reaction solution should get colder than if no work were done.
C there should be no change in the cooling compared with the $w = 0$ case.
D Unable to say without further information.

11 [Exchange receivers, to answer anonymously.] How much does CPS help you learn chemistry in lectures?

A Greatly
B Slightly
C Does not help
D No opinion