CONCEPT: SPONTANEOUS REACTION

_____ is the branch of physical science concerned with heat and its transformations to and from other forms of energy.

In terms of a chemical reaction, you will learn that depending on certain conditions they can occur or not:

- A reaction that requires no outside energy source is classified as a ***natural*** process and is _____ .
- A reaction that requires a continuous energy source to happen is classified as an **unnatural** process and is _____ .

EXAMPLE 1: Which of the following statements is **not** true?

a) The reverse of a spontaneous reaction is always non-spontaneous.

b) A spontaneous reaction always moves towards equilibrium.

c) A highly spontaneous reaction can occur at a fast or slow rate.

d) It is possible to create a non-spontaneous reaction.

PRACTICE: Which of the following statements is/are true?

a) The rusting of iron by oxygen is a non-spontaneous reaction.

b) The addition of a catalyst to a reaction increases spontaneity.

c) The movement of heat from a cold object to a hot object is a non-spontaneous reaction.

d) The diffusion of perfume molecules from one side of a room to the other is a non-spontaneous reaction.

e) None of the above.