Answer on Question #41562 – Physics – Other

Which of these determines whether or not heat flows in a system?
a. average speed of the consituent particles of the system
b. pressure difference between parts of the system
c. degree of hotness or coolness of the system
d. temperature difference between parts of the system

Solution:

Heat, in the strict use in physics, is characteristic only of a process, i.e. it is absorbed or produced as an energy exchange, always as a result of a **temperature difference.**

When two thermodynamic systems with different temperatures are brought into diathermic contact, they spontaneously exchange energy as heat, the exchange being transfer of thermal energy from the system of higher temperature to the colder system.

Hence, correct answer is d.

Answer: d. temperature difference between parts of the system