

2-c-2

Which of the following items is not a path function?

Answer: T

Note that $pdV = a$ differential amount of work and $Tds = a$ differential amount of heat. Work and heat are quantities that are transferred to or from a system during an interaction. They are not properties since the amount of such a quantity depends on more than just the state of the system. Heat and work are energy transfer mechanisms between a system and its surroundings. Both are path functions (this is their magnitude depends on the path followed during a process). Properties are quantities that depend on a state like pressure, temperature, internal energy, entropy. There are state functions. So T is not a path function.