



ACROSS

- 2 A thermodynamic system is said to be in thermodynamic _____ when it's state is characterized by the minimum of a thermodynamic potential, such as the Helmholtz free energy.
- 5 The coefficient of _____ of a heat pump is the ratio of the output heat to the supplied work
- 7 A thermodynamic _____ is a series of thermodynamic processes which returns a system to its initial state.
- 9 _____ is the process of removing heat from an enclosed space, or from a substance, and rejecting it elsewhere in order to lower the temperature of the enclosed space or substance and then maintain that lower temperature.
- 12 _____ embodies the concept of a dynamical system where important mechanical modes, such as waves or oscillations, lose energy over time, typically due to the action of friction or turbulence.
- 15 _____ is a measure of the unavailability of a system's energy to do work.
- 16 A _____ process, or cycle, can be reversed by means of infinitesimal changes in some property of the system without loss or dissipation of energy.
- 17 In thermodynamics, _____ is often associated with the amount of order, disorder, and or chaos in a thermodynamic system.
- 18 The thermodynamic concept of _____ can be described qualitatively as a measure of energy dispersal at a specific temperature.

DOWN

- 1 A heat _____ is a machine or device that moves heat from one location to another via work.
- 3 The _____ law of thermodynamics is an expression of the universal law of increasing entropy, stating that the entropy of an isolated system which is not in equilibrium will tend to increase over time, approaching a maximum value at equilibrium.
- 4 A probability _____ is a probability measure defined over a state space instead of the sample space.
- 6 The _____ cycle represents the most efficient cycle possible for converting a given amount of thermal energy into work or, conversely, for using a given amount of work for refrigeration purposes.
- 8 A heat _____ is a physical or theoretical device that converts thermal energy to mechanical output.
- 10 The thermal _____ is a dimensionless performance measure of a thermal device such as an internal combustion engine, a boiler, or a furnace.
- 11 In thermodynamics, a _____ process is one during which the entropy of the system remains constant.
- 13 The _____ law of thermodynamics is an axiom of nature regarding entropy and the impossibility of reaching absolute zero of temperature.
- 14 _____'s theorem sets a limit on the maximum amount of efficiency any possible engine can obtain based on the difference between the hot and cold reservoir temperatures.