

Thermodynamics Entropy and 2nd Law Conceptual Problems

Conceptual Problems from Cutnell and Johnson 9th Edition Ch 15

Thermodynamics. Entropy-2nd-Law.CP.PUB.1: Heat is transferred from the sun to the earth via electromagnetic waves (see Chapter 24). Because of this transfer, the entropy of the sun _____, the entropy of the earth _____, and the entropy of the sun–earth system _____. (a) increases, decreases, decreases (b) decreases, increases, increases (c) increases, increases, increases (d) increases, decreases, increases (e) decreases, increases, decreases

Conceptual Problems from Knight 3rd Edition Ch 11

Thermodynamics. Entropy-2nd-Law.CP.PUB.2: According to the second law of thermodynamics, it is impossible for a heat engine to convert thermal energy solely into work without exhausting some thermal energy to a cold reservoir. Is it possible to do the opposite—to convert work into thermal energy with 100% efficiency? If not, why not? If so, give an example.

Conceptual Problems from Hewitt 12th Edition Ch 18

Thermodynamics. Entropy-2nd-Law.CP.PUB.3: Can the internal energy of a huge iceberg be harnessed to do work?

Thermodynamics. Entropy-2nd-Law.CP.PUB.4: What would be the ideal efficiency of an engine if its hot reservoir and exhaust were the same temperature – say 400K?

Thermodynamics. Entropy-2nd-Law.CP.PUB.5: What would be the ideal efficiency of a machine that has a hot reservoir at 400 K and a cold reservoir somehow maintained at absolute zero?

Thermodynamics. Entropy-2nd-Law.CP.PUB.6: How does the second law of thermodynamics relate to the direction of the heat flow?

Thermodynamics. Entropy-2nd-Law.CP.PUB.7: What three processes occur in every heat engine?

Thermodynamics. Entropy-2nd-Law.CP.PUB.8: What exactly is thermal pollution?

Thermodynamics. Entropy-2nd-Law.CP.PUB.9: What is the physicist's term for *measure of amount of disorder*?

Thermodynamics.Entropy-2nd-Law.**CP.PUB.10**: Distinguish between the first and second laws of thermodynamics.