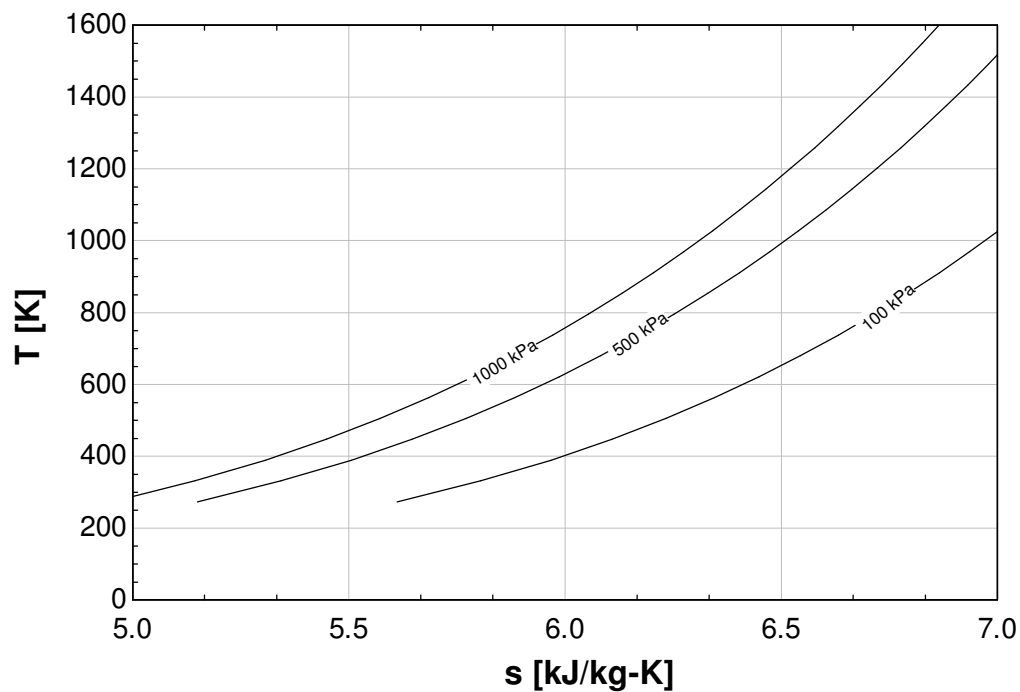


Reconsider the example from last time. Here are some relevant properties:

- (1) $T = 300 \text{ K}$, $P = 100 \text{ kPa}$
- (2) $T = 573 \text{ K}$, $P = 1000 \text{ kPa}$
- (3) $T = 1300 \text{ K}$, $P = 1000 \text{ kPa}$
- (4) $T = 726 \text{ K}$, $P = 100 \text{ kPa}$

Below is a to-scale T - s diagram. Show the cycle on the diagram.



Using the diagram above, suggest a way you could improve the efficiency of the cycle. (Hints: Write an expression for efficiency, and consider the relative temperatures of the various state points.)

Now draw a number of *open steady-state devices* connected end-to-end that could accomplish this increase in efficiency. (**Hint:** You will need one extra open system device not included in the standard Brayton cycle.)

