COP heat pump

Refrigerant-134a enters the compressor of a refrigerator as a saturated vapor at 0.12 MPa (point 1) and leaves as a superheated vapor with $T = 50°C$ at 0.9 MPa (point 2). It is then isobarically cooled in the condenser to a saturated liquid state (point 3) and finally an expansion valve reduces the pressure to 0.12 MPa (point 4). The next few questions will be about this cycle, so it might be convenient to make a table with all the information.

What would be the COP of this cycle if it was a heat pump?

Add 1 to COP of cooling, as useful heat now also includes the power input. You could make up energy balance, and the new useful property, the heat transfer rate to the high temperature environment becomes 135.37+47.8 kJ/kg, dividing this by the work input 47.8 kJ/kg gives $\frac{(135.37+47.8)}{47.8} = 3.83$.