1. Stop-to-Think 21.4 on page 583. In particular:

   (a) Answer the question asked. (what's wrong with the energy-transfer diagram?) Does it violate
       the first law, the second law, or both?

   (b) Fix the energy-transfer diagram so that it represents a possible refrigerator. There are two
       ways of doing this by changing one value in the diagram – you may do either one.

   (c) Find the coefficient of performance $K$ for the refrigerator you sketched out in part (b).

2. On a hot summer day, a Carnot (ideal) refrigerator takes heat from inside a house at 25.0°C and
   delivers it to the outside at 35.0°C.

   (a) What is the coefficient of performance of this fridge?

   (b) For every 1.0 kJ of energy used by the refrigerator (work input into the system, from the fridge
       being plugged in), how many kJ of heat are taken out of the house?

   (c) For every 1.0 kJ of energy used by the refrigerator, how many kJ of heat are delivered to the
       outside of the house?

[not due; for extra practice]. All problems from Chapter 21 of the 4th edition of Knight:


   Exercises: 9-33 (if you don't want to do this many, maybe do every odd one, since it seems the
   questions come in pairs of similar question types).