1. Stop-to-Think 21.1 on page 574. In addition to answering the question in the textbook, for each of the four heat engines, calculate the efficiency according to equation (21.6).

2. Your book is using $Q_C$ for both engines and refrigerators. Explain what is similar about the two uses, and what is different. (there are also similar statements about the usage of $Q_H$, but let’s focus on $Q_C$ for this problem).

3. There are several equivalent definitions of the 2nd law of thermodynamics. Write down three of them that were discussed in sections 21.1-21.2.

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

   Conceptual Questions: 1-5.