1) Compute the amount of work performed by the heart per stroke. Compare your calculation against typical values of this parameter found in the literature for healthy and diseased conditions. Discuss any differences.

2) The above calculation provides an output metric for the heart. How would you determine an input metric (ex: how much fuel is consumed) and thereby develop a parameter for energy efficiency? (What fuel does the heart need?). Based on these calculations develop a parameter that measures energy efficiency (work done / fuel consumed). Calculate typical values and compare to values found in the literature.

3) Based on these calculations, comment on how the heart keeps up with increased demand (say during exercise).

Cite all references used.