**Thermo: Quiz 3c**

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1. Suppose there is heat transfer of 40.00 J to a system, while the system does 10.00 J of work. Later, there is heat transfer of 25.00 J out of the system while 4.00 J of work is done on the system. What is the net change in internal energy of the system?
2. In an automobile engine, after unburned gas is injected into the cylinder, the piston compresses the gas and raises its temperature. In the process, the walls of the cylinder get warmer as well. For this process, identify the sign of the each of the following: ***heat***, ***change in internal energy*** and ***the work***.

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| **ΔU** | **Q** | **W** |
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Answers:

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| **+** | **-** | **+** |