Measurable Outcome #1

I am able to state the First Law and to define heat, work, thermal efficiency and the difference between various forms of energy.

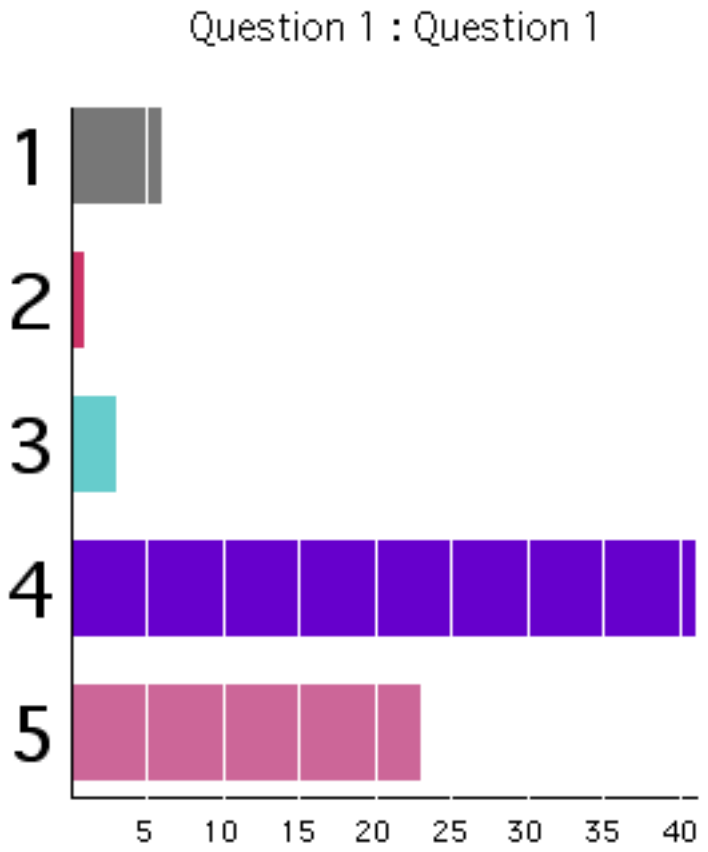
1) Strongly disagree

2) Disagree

3) Somewhat agree

4) Agree

5) Strongly agree



Measurable Outcome #2

I am able to identify and describe energy exchange processes (in terms of various forms of energy, heat and work) in aerospace systems.

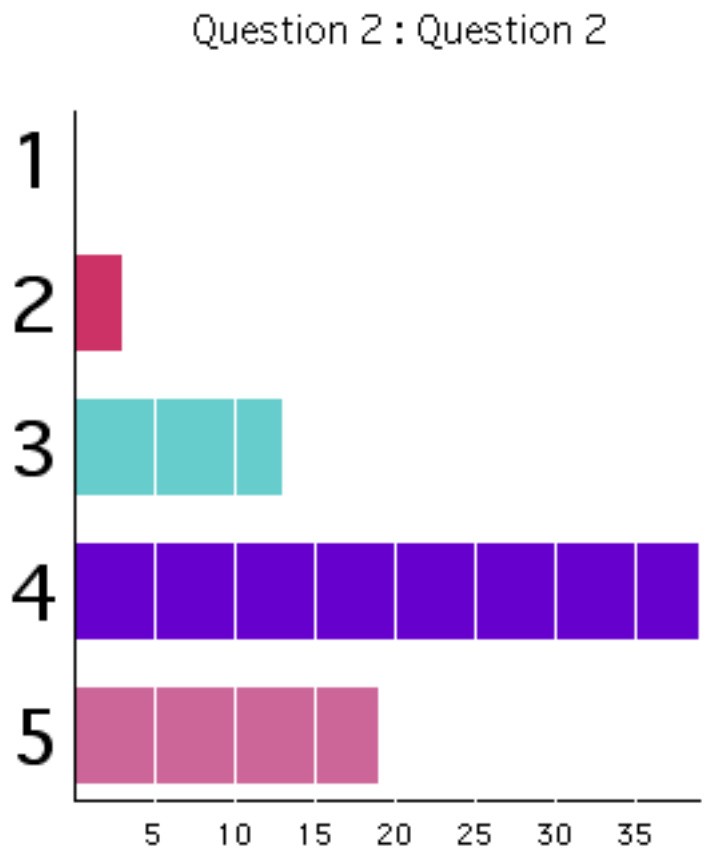
1) Strongly disagree

2) Disagree

3) Somewhat agree

4) Agree

5) Strongly agree



Measurable Outcome #3

I am able to explain at a level understandable by a high school senior or non-technical person how various heat engines work (e.g. a refrigerator, an IC engine, a jet engine).

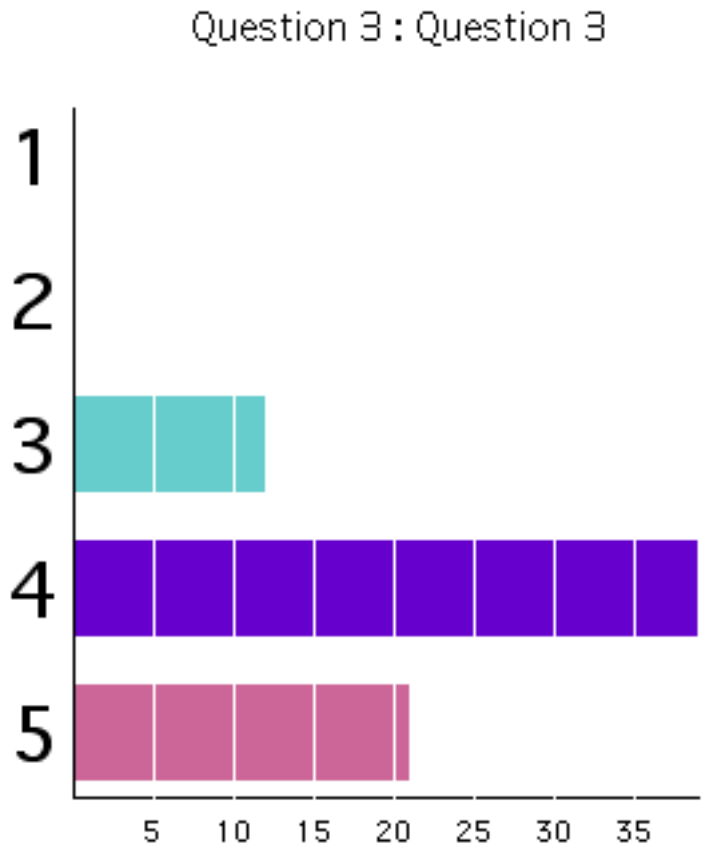
1) Strongly disagree

2) Disagree

3) Somewhat agree

4) Agree

5) Strongly agree



Measurable Outcome #4

I am able to apply the steady-flow energy equation or the First Law of Thermodynamics to a system of thermodynamic components (heaters, coolers, pumps, turbines, pistons, etc.) to estimate required balances of heat, work and energy flow

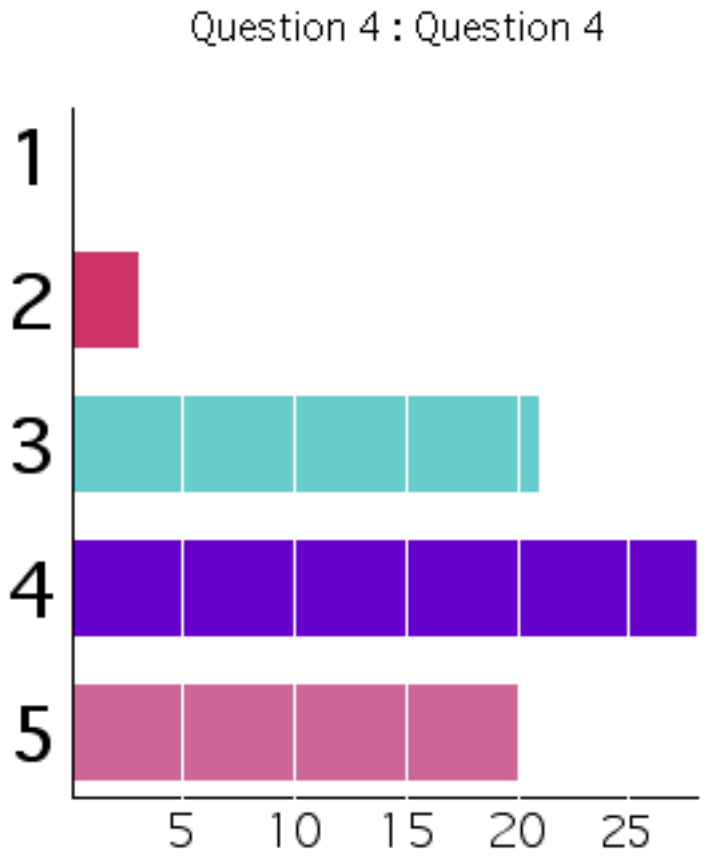
1) Strongly disagree

2) Disagree

3) Somewhat agree

4) Agree

5) Strongly agree



Measurable Outcome #5

I am able to explain at a level understandable by a high school senior or non-technical person the concepts of path dependence/independence and reversibility/irreversibility of various thermodynamic processes, to represent these in terms of changes in thermodynamic state, and to cite examples of how these would impact the performance propulsion systems.

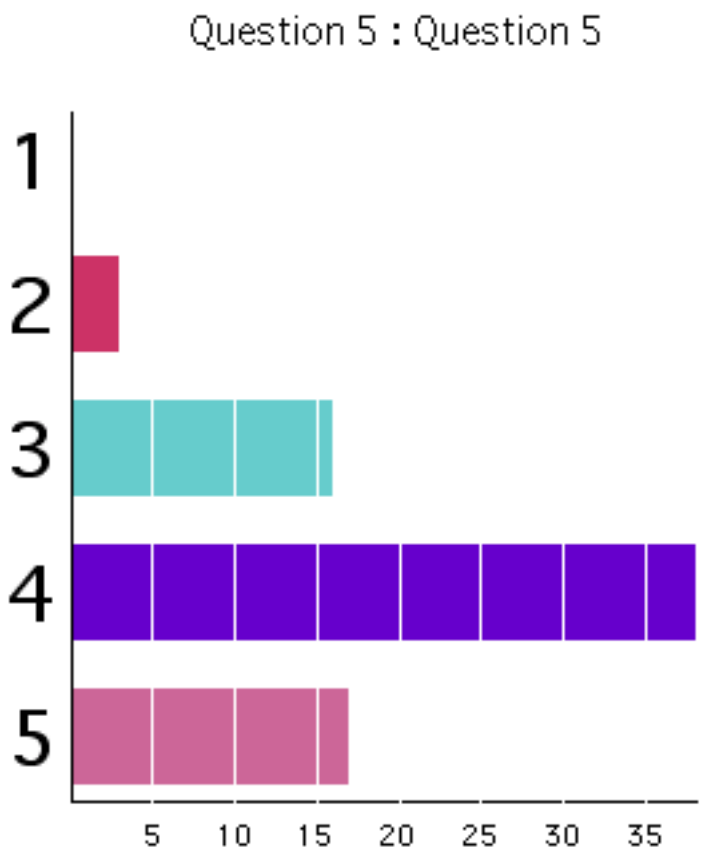
1) Strongly disagree

2) Disagree

3) Somewhat agree

4) Agree

5) Strongly agree



Measurable Outcome #6

I am able to apply ideal cycle analysis to simple heat engine cycles to estimate thermal efficiency and work as a function of pressures and temperatures at various points in the cycle.

1) Strongly disagree

2) Disagree

3) Somewhat agree

4) Agree

5) Strongly agree