SiQuENC

Task	Incomplete (0 pts)	Partial (1 pts)	Excellent (2 pts)

Neatly and graphically represent **si**tuation(s)		Handwritten/hand-drawn representation (could be using sketch(es), table(s), short phrases/notes, etc.)
		• is easy to read
		• and contains some details from the problem statement including
		  ○ Given quantities/variables
		  ○ Requests (what is to be determined)
			Handwritten/hand-drawn representation (could be using sketch(es), table(s), short phrases/notes, etc.)
			• is easy to read
			• and contains all details from the problem statement including
			  ○ Object(s) of interest (e.g. stick figure standing on the ground, cartoon box on a road, etc.)
			  ○ If more than one snapshot in time is relevant, the snapshots are individually labeled so that the order in which the snapshots occur is explicitly displayed
			  ○ Given quantities/variables
			  ○ Requests (what is to be determined)

Graphically represent **qu**antities		Some physical quantities to be related using (a) mathematical relationship(s) are present, but graphical representation of quantities is incomplete. Examples of ways graphical representations of quantities can be incomplete: • Some quantities simply aren't represented • Diagram exists but has no label or has incomplete label (e.g. numerical value is present, but algebraic variable is missing).	The physical quantities that are to be related using (a) mathematical relationship(s) are represented. Examples of complete representations: Time — Clock face with clock hand (eventually can omit this icon) — $t_{\text{LABEL}} =$ Displacement — Arrow — $\Delta x =$ Distance — Brace or double-headed arrow — $d =$ or $\lvert\Delta x\rvert =$ Instantaneous velocity — Arrow — $v_{x,\text{LABEL}} =$
Identify allowed starting point **e**quation(s) and/or inequalities		• Written equation or inequality that is • allowed (comes from explicitly taught physics knowledge) • relevant for answering the question	• Written equation or inequality that is • allowed (comes from explicitly taught physics knowledge) • In terms of algebraic variables (no substitutions of numerical values) • relevant for answering the question

Analyze		• There is enough work shown for the grader to suspect that the student might have attempted the solution using correct conceptual knowledge and logic,
		• but there is not enough work to prevent a grader from arguing a reasonable case that the student might have gotten to their answer with incorrect understanding and/or reasoning.
			• Essential numerical substitutions, algebraic simplifications, and/or algebraic analysis are shown/described.
			• If the problem requests an explanation, the REASoN scaffold is used.
			  ○ Relationships
			  ○ Equal/same/constant
			  ○ Altered/different/changed
			  ○ So what?
			  ○ Next?

Communicate		• If question asks for the value of a variable, a boxed answer is provided that contains the numerical value with units is provided, but the equal sign or inequality and relevant algebraic variable symbol are missing. • For something more like a yes/no question, a simple one- or two-word answer is given rather than a complete sentence in English. • If an explanation is requested, the conclusion is stated in a complete sentence in English, but at least one essential aspect of the REASoN scaffold is not translated into English.	• If question asks for the value of a variable, the solution should present a boxed answer containing the variable and the numerical value with units. • If question asks for something more like a yes/no answer, final conclusion is stated in a complete sentence in English. • If an explanation is requested, all relevant components of the REASoN scaffold are translated into English.