High School / Scoring Key   Lights, Candles, Action!

➡ **SMARTER BALANCED PERFORMANCE TASK**

Item 3

Claim 2
8.EE.C.8

SAMPLE	SCORE	RATIONALE
A	**1**	The student identified a thorough set of variables to consider in the process of determining if both candles can be the same height in 3 hours. The student also wrote clear equations for the candles with these variables, positioned to correctly represent the relationships among the variables. The explanation suggests the student understood that solving the equations simultaneously would solve the problem. However, the response does not indicate if there will be time to capture the desired moment, nor does it include an argument. The response earns partial credit for providing evidence of reasoning correctly about a valid approach to solving the problem.
B	**0**	The student described the situation in a way that is approximately accurate, but not accurate enough to reach a correct conclusion about what will happen within 3 hours. There is partial evidence of an attempt to support the initial (incorrect) claim, but the response does not include a valid mathematical argument. The response earns 0 points.
C	**2**	The student developed a valid mathematical argument to support the claim that Candle Type A and Candle Type B will not reach the same height within the 3-hour time frame. The student also wrote and solved a system of two linear equations to show that both candles will have the same height at exactly 3 1/3 hours after being lit, and provided a table of values to further support the argument. The response earns full credit.
D	**1**	The student correctly determined that both candles will not reach the same height within 3 hours. However, the response provides insufficient evidence of valid mathematical reasoning and includes a calculation error in the attempt to support the claim. The final statement of the response is hard to interpret. The response earns 1 point.
E	**2**	The student developed and solved a system of linear equations to show that it will take "around 3.3 hours," which is beyond the 3-hour time limit, to capture the moment when both candles are the same height. The response also includes a clear and valid mathematical argument that connects the solution to the system of equations to the context. This response earns full credit.
F	**0**	After presenting some initial uncertainty, the student claimed that within 3 hours, the candles will have the same height. However, the response does not show enough mathematical work to support this incorrect claim, and there is not a clear argument. The response earns 0 points.
G	**1**	This response includes a reasonable attempt to construct a mathematical argument to support the claim that the candles will be about the same height in 3 hours. However, the explanation does not clearly indicate the burn rate of each candle, and is not precise enough to constitute a valid argument. The response earns 1 point.

Understanding **Proficiency** *A Partnership of WestEd and SCALE*

Item 3 *(continued)*

Claim 2
8.EE.C.8

SAMPLE	SCORE	RATIONALE
H	0	This response suggests that the student may have misunderstood the situation and may have been confused about what is asked in the prompt. There is evidence of some reasoning about the two candles, but a reference to "the constant rate" suggests that the student interpreted the candles to have the same constant rate. There also seems to be an unfortunate issue in understanding the meaning of "new set of candles" (versus "old candles"). The response earns 0 points.
I	2	The student presented calculations of the change in height of each candle for each hour of burning. These calculations are organized clearly to connect with the valid mathematical reasoning presented in the concluding argument. Although the response does not include setting up or solving a system of linear equations, this is not a requirement for full credit. The reasoning presented is clear, and the argument provided is valid and directly supports the claim that the candles will not be the same height within the 3-hour time frame. The response earns full credit.