

# High School / Scoring Key Lights, Candles, Action!

→ SMARTER BALANCED PERFORMANCE TASK

## Item 2

Claim 3  
7.EE.B.4

| SAMPLE | SCORE | RATIONALE  |
|--------|-------|--|
| A      | 2     | The student correctly determined that Candle Type A will burn out first, and developed a model to represent the first 5 hours of burning for each candle. The model includes the burn rate and initial height of each candle. The response includes a valid and clear mathematical explanation as to why Candle Type A reaches 0 cm first. This response receives full credit.   |
| B      | 1     | The student correctly determined that Candle Type A will burn out first by comparing the burn rates of Candle Type A and Candle Type B. However, the student did not include a consideration of the initial height of each candle in his/her explanation. Then, in the student's attempt to support the claim, the equation he/she wrote for each candle does not fit the explanation: the coefficient of $x$ (representing the burn rate) is positive instead of negative. This response earns 1 point since the student reasoned correctly from incorrect equations. |
| C      | 1     | The student indicated correctly that the answer is Candle Type A, and provided evidence of valid mathematical reasoning to support this choice. However, the response does not include clear identification of the quantities involved. Specifically, the height values of the candles each hour are unlabeled and the burn rates are not mentioned. The response does not include a clear explanation to connect the values in the model to a comparison between two different burning candles. The response receives partial credit of 1 point.                      |
| D      | 2     | The student determined correctly that Candle Type A will burn out first, and provided a chart to represent the height of each burning candle for 5 hours. The response includes valid reasoning to support the explanation, as well as both the burn rate and initial height of each candle. This response receives full credit.   |
| E      | 0     | The student concluded that Candle Type B will burn out first because it is smaller in height than Candle Type A. The first part of the response suggests an attempt to compare the burn rates. The student did not provide sufficient evidence of valid mathematical reasoning to support the claim or earn any points.  |
| F      | 0     | The student did not state which candle will burn out first, and did not provide any explanation. Although there is clear evidence of strong algebraic reasoning in this response, the reasoning is not developed into a valid response. Without a clear statement of which candle burns out first, without any mention of initial heights or burn rates of the candles, and without an explanation, the response earns 0 points.   |

**Item 2** *(continued)***Claim 3**  
**7.EE.B.4**

| SAMPLE | SCORE | RATIONALE  |
|--------|-------|--|
| G      | 2     | The student correctly stated that Candle Type A will burn out first, clearly indicated the burn rate for each candle, and developed two tables of values to compare the heights of each candle after every hour of burning. The response includes a clear and valid explanation of the values and the reasoning, and earns full credit.              |
| H      | 1     | The student correctly identified that Candle Type A will burn out first, but did not indicate the initial height and burn rate of each candle. The explanation to support the claim contains a minor calculation error, and does not provide sufficient explicit evidence of considering all of the relevant quantities. The response earns 1 point. |
| I      | 1     | The student identified that Candle Type A will burn out first, and clearly stated the burn rate of each candle. However, the explanation includes evidence of inconsistent reasoning and does not sufficiently support the claim. The response earns partial credit of 1 point.  |