

MAT.03.ER.1.000OA.D.567 C1 T1

Sample Item ID:	MAT.03.ER.1.000OA.D.567
Grade:	03
Claim(s):	Claim 1: Concepts and Procedures Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.
Assessment Target(s):	1 D: Solve problems involving the four operations, and identify and explain patterns in arithmetic.
Content Domain:	Operations and Algebraic Thinking
Standard(s):	3.OA.8
Mathematical Practice(s):	1, 2, 4, 7
DOK:	1
Item Type:	ER
Score Points:	1
Difficulty:	H
Key:	See Sample Top-Score Response.
Stimulus/Source:	
Target-Specific Attributes (e.g., Accessibility Issues):	
Notes:	The response box accepts a maximum of 3 numeric characters.

Brandon learned that, beginning at age 2, children grow about 6 centimeters per year. Brandon's brother is 2 years old today and 80 centimeters tall.

Brandon wants to estimate what his brother's height would be at age 7. Use pictures, math, or words to explain the work needed to find his brother's height.

Brother's height at age 7 will be about centimeters.

Sample Top-Score Response:

Brandon multiplied 5 times 6 to find the number of centimeters his brother grew in 5 years. $5 \times 6 = 30$.

Then he added 30 to his current height, 80. $30 + 80 = 110$.

Brother's height at age 7 will be about **110** centimeters.

OR

Brandon started with his brother's current height, 80, and added 6 centimeters for every year until Brandon's brother reached age 7.

Age 2	Age 3	Age 4	Age 5	Age 6	Age 7
80	86	92	98	104	110

Brother's height at age 7 will be about **110** centimeters.

Scoring Rubric:

Responses to this item will receive 0–2 points, based on the following:

2 points: The student shows thorough understanding of explaining patterns in arithmetic by finding Brandon's brother's height at age 7 and showing work that supports the answer. Supporting work can either be a pattern, multiple additions of 6, or combining multiplication (5×6) and addition ($30 + 80$).

Note: If a student gives an answer of 116 cm, it is acceptable for full credit if an explanation includes that Brandon's brother grows another 6 cm before the age of 8.

1 point: The student shows some understanding of explaining patterns in arithmetic by finding Brandon's brother's height at age 7, but the supporting work is incomplete or missing. **OR** The student is able to demonstrate a strategy that would result in a correct height but makes an error in completing the work.

0 points: The student shows limited or no understanding of explaining patterns in arithmetic and is not successful in completing any part of the item.