Included below is an example of student using the acronym PEMDAS without any real understanding of Order of Operations.

Pre-Assessment

3. The students attempted to evaluate: $50 - 45 \div 5 \cdot 3 + 2$

Allyson	Brent	Cynthia
$50 - 45 \div 5 \cdot 3 + 2$	$50 - 45 \div 5 \cdot 3 + 2$	$50 - 45 \div 5 \cdot 3 + 2$
$5 \div 5 \cdot 3 + 2$	$50 - 45 \div 15 + 2$	$50 - 9 \cdot 3 + 2$
$1 \cdot 3 + 2$	$50 - 3 + 2$	$50 - 27 + 2$
$3 + 2$	$47 + 2$	$23 + 2$
5	49	25

Explain which student evaluated the expression accurately; use specific details from the students' work.

Brent evaluated correctly because he started with multiplication, like in PEMDAS, but Allyson went left to right and Cynthia did division first because she thought it could just go left to right with division and multiplication. but you can't when there is other stuff with them

This student knows the acronym PEMDAS but does not know that multiplication and division are on the same level and you evaluate whichever comes first left to right.

Sample very good explanation: