Name: ______ Date: _____

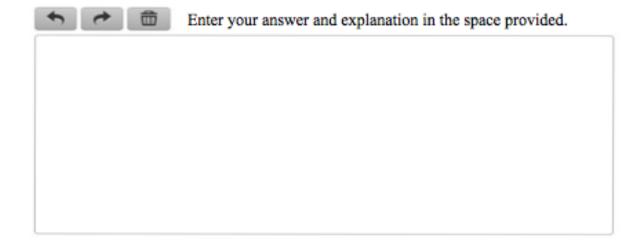
Two students determined the value of this expression.

$$-2.5(1.4+3.1)+6.9(-4.3)$$

These are the steps each student used.

Student P	Student Q
Step 1: -3.5 + 7.75 + 6.9(-4.3)	Step 1: -3.5 - 7.75 + 6.9(-4.3)
Step 2: -3.5 + 7.75 - 29.67	Step 2: -3.5 - 7.75 - 29.67
Step 3: 7.75 – 3.5 – 29.67	Step 3: -(3.5 - 7.75 - 29.67)
Step 4: −25.42	Step 4: -(-33.92)
	Step 5: 33.92

- Describe any errors made by Student P.
- Describe any errors made by Student Q.
- Show a complete set of correct steps to determine the value of the expression.



ANSWER KEY

Rubric		
Score Description		
3	Student response includes the following 3 elements.	
	 Reasoning component = 1 point The student provides a correct description of the error mad Student P in step 1. 	
	 Reasoning component = 1 point The student provides a correct description of the error made by Student Q in step 3. 	
	 Reasoning component = 1 point The student provides a correct set of steps shown to determine the value of the expression, -40.92. Sample Student Response: 	
	Student P made one error, which occurred in step 1. From the original expression to step 1, each term in the first set of parentheses is multiplied by -2.5. The error in step 1 is that -2.5 x 3.1 = -7.75 not 7.75. There are no additional errors in Student P's steps.	
	Student Q made one error, which occurred in step 3. Since all terms in step 2 are negative or are being subtracted, -1 can be factored from each term. This would leave only positive terms inside the parentheses. That is, the student should have indicated that $-3.5 - 7.75 - 29.67 = -(3.5 + 7.75 + 29.67)$. There are no additional errors in Student Q's steps.	
	A correct set of steps to determine the value of the expression is shown. $-2.5(1.4 + 3.1) + 6.9(-4.3)$ $-3.5 + (-7.75 + (-29.67)$ $-3.5 - 7.75 - 29.67 = -40.92$	
	or	
	-2.5(1.4 + 3.1) + 6.9(-4.3) -2.5(4.5) + (-29.67) -11.25 + (-29.67) = -40.92 or other valid response	
2	Student response includes 2 of the above elements.	
1	Student response includes 1 of the above elements.	
0	Student response is incorrect or irrelevant.	

Glow	Grow