Structures Lesson
Interpretations of Addition and Subtraction Error Analysis KEY

What follows is a collection of <u>incorrect</u> exam responses based on actual work submitted by pre-service teachers taking a course in mathematics using the text Mathematics for Elementary Teachers, by S. Beckmann.

The exam questions are lettered and written in bold font, the erroneous answers are numbered below them. For each response, indicate what is incorrect about the problem. (Do not revise the problems, just state why they are incorrect.)

Question A: Write a compare story problem that fits naturally with the equation ? – 17 = 25.	
1. John has some toy cars. Together with Jeff they have 25 cars. Jeff has 17 cars. How many cars does John have? *Not a compare (a put together/take apart) problem; Wrong number sentence: ? + 17 = 25*	2. Sandy had 25 green hats after she gave 17 yellow hats to Kelly. How many hats did Sandy originally have? *Not a compare (a take away) problem*
3. Jorge has 25 oranges. Matteo has 17 fewer oranges than Jorge. How many oranges does Matteo have? *Wrong number sentence: 25 - 17 = ?*	4. Corey has some movies. Angelina has 17 movies, 25 less than Corey. How many movies does Corey have? *Wrong number sentence: ? - 25 = 17 Or 17 = ? - 25*

Question B: Write an "add to" story problem that fits naturally with the equation ? + 17 = 42.	
5. Together, Lewan and Tomika have 42 blocks. 17 blocks are Lewan's. How many block does Tomika have? *Not an "add to" (a put together/take apart) problem Possibly wrong number sentence: 17 + ? = 42*	6. My sister has some gumballs. If she had 17 more then she would have as much as me. I have 42 gumballs. How many does my sister have? *Not an "add to" (a compare) problem; Possibly wrong number sentence: ? + 17 = 25*

Question C: Write a "take away" story problem that can be solved by adding the numbers in the problem.	
7. Paige has 15 apples. Benji takes some away. Paige is left with 6 apples. How many apples did Benji take away? *Not solved by adding; situation equation 15 - ? = 6, solution equation 15 – 6 = ?*	8. I have 10 flowers in my vase. I took 6 flowers from my mom's vase and put them in my vase. How many do I have now? *Not a "take away" (an "add to") problem*

Early finishers: Write your own solution to Question C above. That is, write a "take away" story problem that can be solved by adding the numbers in the problem.