

Do this ONLY after you have completed the problem yourself!

Examine the following student responses to Question 1.

Which artifact demonstrates the strongest understanding of place value? Why?

Which artifact demonstrates the weakest understanding of place value? Why?

How would you address one of the misconceptions demonstrated by one of these responses?

Student Response #1

Carla

1	4	3
-	5	2

Maria

4	3	5
-	2	1

Who will win the game? Maria

Explain how you know this person will win.

Carla already put down
one hundred's place
while Maria didn't and so she
can make a bigger number

Student Response #2

Who will win the game? Maria

Explain how you know this person will win.

It is definite that Maria will win because no other
number can 5 be subtracted from without having
to borrow from the one. This will cause all her answers
to be less than 100. No matter what Maria does
with her number, her answer will always be above
100.

Student Response #3

Carla

	4	3
-	5	2
<hr/>		

Maria

4	3	5
-	2	1
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Who will win the game?

Maria

Explain how you know this person will win.

She will win because she has the highest number on top and the lowest on the bottom, that means that she is taking as less as she can out of the high number, while Carla is doing just the opposite.

Student Response #4

Carla

1	4	3
-	5	2
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Maria

4	3	5
-	2	1
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Who will win the game?

Maria

Explain how you know this person will win.

they would have the highest number

Student Response #5

1	2	3
1	4	3
-	15	2

Best "hand"
possible for
Carla.

1	2	3
4	3	5
1	9	4

Worst "hand"
possible for
Maria.

Who will win the game? Maria

Explain how you know this person will win.

Because, if Maria places the rest of her cards in the worst order such Carla places the rest of her cards in the best order than Maria still wins.

Student Response #6

Who will win the game? Maria

Explain how you know this person will win.

Carla numbers are all smaller than the number being subtracted. Maria has a larger number on top, and a small one on the bottom.