

Levels of Understanding Description

Unit: Number Puzzles and Multiple Towers **End of the Unit Assessment** Problem 2: 57×83

Benchmark: Students solve multiplication problems efficiently

Meets the Benchmark	Partially Meets the Benchmark	Does not meet the Benchmark
<ul style="list-style-type: none"> - Student breaks the problem into easily manageable parts; - Student solves all the partial products - Student keeps track of what has been solved and what remains to be solved - Student adds the partial products back together accurately <p>Alternately, students' work should show that they solved the problem in another efficient way, such as creating an equivalent problem.</p>	<ul style="list-style-type: none"> - Student breaks problem apart accurately - Student does not break the problem apart efficiently - Student is challenged when using multiplication combinations through 12×12 because some facts are not yet fluent - The work is difficult to follow, even though student records most of his/her thinking - Student breaks apart the problem in a reasonable way, but makes errors in multiplication and addition - Student uses multiples of 10 correctly by breaking the problem apart starting with 10×83 - Student successfully breaks the problem into smaller pieces, but loses track of the pieces - Student adds the partial products back together incorrectly - Student understands how to solve the problem correctly, but does not use clear notation and thus loses track of his/her own steps 	<ul style="list-style-type: none"> - Student does not yet have a solid understanding of multiplication as involving equal groups - Student may attempt to change problem to a multiple of 10 by changing 57×83 into 57×100. However the student is not clear that the problem was increased by seventeen 57s not just by 17. - Student may not understand how to multiply by multiples of 10 - Student may attempt to add instead of multiply (e.g., they student may add 80's or 83s ten times and then add that sum to build up to fifty 80s or 83s) - Student does not demonstrate an understanding of breaking the problem into partial products - Student records some work, but not enough to clearly understand his/her thinking - Student does not record notations that help him/her solve the problem - Student does not use knowledge of 12×12 to solve the problem, many math facts are not yet fluent