Fractured Multiplication  M010 scoring rubric

Math Domain
☑ Number/Quantity ☐ Shape/Space ☐ Function/Pattern
☐ Chance/Data ☐ Arrangement

Math Actions (possible weights: 0 through 4)
0 Modeling/Formulating 2 Manipulating/Transforming
3 Inferring/Drawing Conclusions 2 Communicating

Math Big Ideas
☐ Scale ☐ Reference Frame ☑ Representation
☐ Continuity ☐ Boundedness ☐ Invariance/Symmetry
☐ Equivalence ☐ General/Particular ☑ Contradiction
☐ Use of Limits ☐ Approximation ☐ Other

There are nine possible solutions:
19 x 5 = 95
18 x 5 = 90
16 x 6 = 96
15 x 6 = 90
14 x 7 = 98
13 x 7 = 91
12 x 8 = 96
11 x 9 = 99
10 x 9 = 90

It is interesting that there is no number which can be multiplied by 17 to get an answer in the nineties.
<table>
<thead>
<tr>
<th></th>
<th>partial level (1 or 2)</th>
<th>full level (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Modeling/Formulating</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transforming/Manipulating</strong></td>
<td>The final answer is not consistent with the inserted numbers.</td>
<td>In all cases, the inserted numbers lead to the stated final answer.</td>
</tr>
<tr>
<td><strong>Inferring/Drawing Conclusions</strong></td>
<td>Student is able to find only some of the possible answers.</td>
<td>Student finds all possible answers.</td>
</tr>
<tr>
<td><strong>Communicating</strong></td>
<td>Explanation in question 3 is not clear, or is incomplete.</td>
<td>Explanation in question 3 clearly describes the assumptions made and logic employed.</td>
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</tbody>
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