Grade 5 Multiplication Test (Chapter 6) 

Name: 

1. Show three new multiplication facts that can be made from $5 \times 8 = 40$ (Chunking, doubling, half & double, multiples of ten etc). 6 marks

2. Joe fills a box with six muffins.
   a) How many muffins does he need to fill eight boxes? Use the fact $5 \times 8$ to locate the product of $6 \times 8$. Use an array or show calculations using mental math (show steps). 1 mark

   b) How would the number change if he fills nine boxes? Use mental math and the multiples of ten to relate $10 \times 6 = 60$ to locate $9 \times 6$. 1 mark

3. Use a sketch to show that $18 \times 50 = 9 \times 100$, by using the half and doubling strategy. (2 marks)

4. How much greater is $4 \times 96$ than $4 \times 90$? How do you know, show the steps of mental math strategy. 2 marks

5. One boat can hold 15 passengers to ferry them across a lake. About how many passengers can 21 boats hold? Show 2 different ways to estimate an answer for $15 \times 21$. (2 marks)
6. Calculate using the expanded form strategy. Show all the steps.

\[
\begin{array}{c}
20 + 2 \times 10 + 7 \\
10 + 5 \times 10 + 5
\end{array}
\]

7. What multiplication does this array show? Calculate the product and show all the steps of expanded form calculations. 3 marks.

8. Sketch an array to model each multiplication. Calculate each product. (3 marks)
   a) \(32 \times 47\)
   b) \(58 \times 23\)

9. Choose your own strategy to calculate (show all your work). Then show if your product is valid by using an estimate. 4 marks.
   a) \(22 \times 66\) estimate:
   b) \(43 \times 91\) estimate:
10. Use the half and double strategy, show your work:

   a) \(50 \times 12=\)  
   b) \(200 \times 25=\)  (hint do it twice)


11. Use the Chunking strategy to make this array easier to calculate \(15 \times 7\)
   Explain the array and show the steps to answer.  2 marks

   \[
   \begin{array}{c}
   \text{5} \times 7 \\
   + \\
   \text{10} \times 7 \\
   \end{array}
   \]

12. Using the short "old school" method, multiply and show your regrouping.
   Josie's heart beats 73 times in a minute. (6 marks). Write a sentence for each.

   a) How many times in 12 minutes  
   b) In 35 minutes?  
   C) in 41 minutes?

   \[
   \begin{array}{c}
   \text{X} \quad 7 \quad 3 \\
   \text{1} \quad 2 \\
   \hline
   (2 \times 73) \\
   + \\
   (10 \times 73) \\
   \end{array}
   \quad
   \begin{array}{c}
   \text{X} \quad 7 \quad 3 \\
   \text{5} \quad 5 \\
   \hline
   (5 \times 73) \\
   + \\
   (30 \times 73) \\
   + \\
   (40 \times 73) \\
   \end{array}
   \]

   \[
   \begin{array}{c}
   \text{X} \quad 7 \quad 3 \\
   \text{4} \quad 1 \\
   \hline
   (1 \times 73) \\
   + \\
   \end{array}
   \]