Name _____ Date _____ Class _____

MATH SKILLS

A Shortcut for Multiplying Large Numbers

Imagine that you are a doctor doing research on white blood cells. You know that there are approximately 80,000 white blood cells in 1 mL of blood. You have a sample of 50 mL of blood. How many white blood cells are in the sample? You could multiply to find the answer, of course, but it's a large number and you need an answer quickly. How can you make this easier? Read on to learn an easy way to find the product of large numbers.

PROCEDURE: To find the product of large numbers, remove the zeros at the end of one or both numbers. Next, multiply the non-zero numbers. Finally, at the end of the product, replace the same number of zeros that you removed from your multipliers.

SAMPLE PROBLEM: Multiply 80,000 by 50.

Step 1: Remove the zeros from the end of your numbers, and multiply the non-zero numbers.

$$80{,}000 \rightarrow 8\cancel{0{,}000} \rightarrow \qquad \begin{array}{r} 8 \\ \times \quad 5 \\ \hline 40 \end{array}$$

$$50 \rightarrow 5\cancel{0} \rightarrow$$

Step 2: At the end of your product, replace the total number of zeros you removed from the multipliers. Because you removed a total of five zeros from your multipliers, place five zeros after your product.

$$80{,}000 \times 50 = 4{,}000{,}000$$

It's Your Turn!

Using the method above, find the products of the following problems, and write the corresponding letter from the correct answer on the line.

1. $300 \times 90{,}000$	_____	**A.** 31,720,000
2. 45×8500	_____	**B.** 3,524,000
3. 4400×7500	_____	**C.** 27,000,000
4. $52{,}000 \times 610$	_____	**D.** 33,000,000
5. $88{,}100 \times 40$	_____	**E.** 382,500

Challenge Yourself!

A super-fast chess computer can perform 200,000,000 calculations per second. How many calculations can it perform in the 3 minutes it is allowed for each move?

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