

Name \_\_\_\_\_

A Math Forum Project

# 2007 Mathematics Game

Rules of the Game: Use only the digits 2, 0, 0, and 7, in any order, with the operations +, −, ×, / (divide), ^ (raised to a power), sqrt (square root), and ! (factorial), to write expressions for the counting numbers 1 through 100. Grouping symbols may also be used, and multi-digit numbers such as 20, 207, 0.02 may be used this year. Write your answers in the boxes below, using no equal signs.

Correct format:  $(2 + 0) - 0 + 7$ .

Incorrect format:  $2 + 0 = 2 - 0 = 2 + 7 = 9$ .

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Use the digits in the year 2007 and the operations +, -,  $\times$ ,  $\div$ , sqrt (square root), ^ (raise to a power), and ! (factorial), along with grouping symbols, to write expressions for the counting numbers 1 through 100.

1. All four digits must be used in the expression.
2. Only the digits 2, 0, 0, 7 may be used.
3. Multi-digit numbers such as 20, 207, or .02 **MAY** be used this year.
4. The square function may **NOT** be used.
5. The integer function may **NOT** be used.
6. Students should be introduced to the fact that  $0!$  by definition is equal to 1. See Dr. Math's answer to [Why does 0 factorial equal 1?](#) for more information.
7. Dr. Math also tells us that, depending on the context where  $0^0$  occurs, it can be 1, indeterminate, or undefined/nonexistent. For this game we will accept the value  $0^0=1$ . See the Dr. Math FAQ [0 to the 0 power](#) for more information.
8. This site is intended for the posting of answers generated by students. Teachers may submit answers for their students.
9. Each answer should include the expression, the name of the student, the student's grade level, and the name of the school.
10. Use the Web form once for each answer you would like to contribute. If you send more than one solution per form submission, we will be unable to include your answers on our solution page.

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