



TI – 73 EXPLORER™

7TH GRADE ACTIVITY 4:

ORDER SOME OPS

ACTIVITY OVERVIEW:

In this activity we will

- Explore the effect of exponents in the order of operations
- Develop understanding of exponents and parentheses in order of operations

On the right, you see a problem that results in an answer of 36. You can see there is multiplication and an exponent. Which operation occurred first? How are you able to tell? Record your explanation on the block below.

$4 \cdot 3^2$	36
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What would happen if we changed the expression by placing parentheses around the $4 \cdot 3$? Enter the expression to the right into your calculator by pressing $\Delta \ominus M [E 6$ and then press β to see the result.

$(4 \cdot 3)^2$

In the order of operations, exponents will occur before the four basic operations and any operations in parentheses will occur first.

Use the numbers 6 4 and 2, one multiplication and one of the three numbers as the exponent to find the biggest possible answer and the smallest possible answer. In order to use exponents other than 2, press the $\frac{\square}{\square}$ key right before the number you want as your exponent. You may not use parentheses. Write your expressions and answers on the right.

Smallest expression/answer

Largest expression/answer

Now try the same problem above with parentheses. Record your expressions and answers to the right.

Smallest expression/answer

Largest expression/answer

Use the numbers 3 6 and 8, choosing one of the four basic operations and one number as an exponent to find as many possible expressions and answers as you can find. Record your answers on the right or below. Do not use parentheses.

STANDARD N.1.Number and Operations (NCTM) BENCHMARK1.1.Understand numbers, ways of representing numbers, relationships among numbers, and number systems. GRADE LEVEL EXPECTATION1.1.5.Develop an understanding of large numbers and recognize and appropriately use exponential, scientific, and calculator notation.