

**Activities/
Resources
for
Unit II: Decimals**

Order of Operations Example

Below is the first expression that we will be simplifying:

$$2 + (3 - 1) \cdot 3^2$$

Order of Operations

1. **Parentheses and Brackets**
from the inside out
2. **Exponents**
of numbers or parentheses
3. **Multiplication and Division**
in the order they appear.
4. **Addition and Subtraction**
in the order they appear.

As we walk through the steps to simplifying this expression, use the Order of Operations reference in the right column of this page. The first step in the Order of Operations is to simplify parentheses and brackets from the inside out. You must remember to use the Order of Operations when simplifying the inside of the parentheses, but we don't need to worry about that in this problem because there is only one operation inside the parentheses $3 - 1$. In this case all that has to be done is subtraction of 1 and 3. The answer is shown below.

$$2 + (2) \cdot 3^2$$

The next step in the Order of Operations is to simplify exponents. 3^2 becomes 9. The result is shown below.

$$2 + (2) \cdot 9$$

The next step in the Order of Operations is to simplify multiplication and division in the order that they appear. There is no division, only multiplication. Multiply (2) and 9:

$$2 + 18$$

The final step is to simplify addition and subtraction (combine like terms).

$$20$$