

## Order of Operations Class Work

★ **Recall: What do you remember about the order of operations?**

(GEMDAS: Grouping, Exponents, Multiplication/Division [IN THE ORDER THEY APPEAR],  
Addition/Subtraction [IN THE ORDER THEY APPEAR])

★ **Consider the situation:**

Your friend tells you that for every month you donate money to any organizations (no matter how large or small your donation is), he/she will also add a total of \$10 to your monthly donation. You plan to donate \$20 this month. You would like your donation to be split evenly between the ASPCA, UNICEF, and World Vision. Assume you repeat your donation for six months.

Write a numerical expression that could be used to determine the amount of money each organization will receive from you and your friend.

How does this relate to your knowledge of the order of operations?

Can you rewrite your expression and correctly use the order of operations to demonstrate that the amount of money each organization receives will still be the same?

**✎ Practice Using the Order of Operations!**

You are assigned to Group A: complete the activities in each box. Feel free to discuss with anyone around you who is also assigned to Group A. When you are done, pair up with a peer from group B. You have Group B's "answer key," and they have yours! Work together to check and correct your work as necessary.

**Group A Activities**

<p>Evaluate:  <math>(-2)^3(4 - 8)</math></p>	<p>Evaluate:  <math display="block">-\frac{7}{ 1 - 3  + 4 - 9}</math></p>	<p>Evaluate using the given values:  <math>pr - q^2 \div 2</math>; <math>p = -3, q = -5, r = 2</math></p>
<p>Evaluate using the given values:  <math>yz(x - 2)^2 - 9 + y</math>; <math>x = 8, y = -1, z = 6</math></p>	<p>Find and cross out the two errors in the work below:  <math>(1 - 3^4) - 2 \div -1 * 3</math>  <math>(-2)^4 - 2 \div -1 * 3</math>  <math>16 - 2 \div -3</math>  <math>16 - \frac{2}{3}</math>  <math>15 \frac{1}{3}</math></p>	<p>Jane had 213 cookies to bring to soup kitchens. Her sister ate five of the cookies. When trying to figure out how many cookies to put on each platter (one platter per soup kitchen), she entered the expression <math>213 - 5/4</math> on her calculator and received a solution of 211.75, which she knew was unreasonable. What could Jane have done on her calculator to avoid this error?</p>

**Group B Solutions**

<p>250</p>	<p>-1</p>	<p>-22.5</p>
<p>-179</p>	<p>The third line should not say <math>-3^2</math> because exponents should be operated before division. The fourth line was also simplified incorrectly to the fifth line because multiplication and division should be operated in the order they appear.</p>	<p>You should have put parentheses around the total amount the checks were worth <math>(58+290)</math>.</p>

**Create, Solve, & Go**

**Name of Creator:** \_\_\_\_\_

**Name of Solver:** \_\_\_\_\_

*Creator Instructions:* Create a problem that requires the correct order of operations to solve. Solve your problem and write the answer on the back of this page. Let me know when you are done.

*Solver Instructions:* Solve the problem you are given. Be sure to show all work to earn full credit! 😊

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✂ **Practice Using the Order of Operations!**

You are assigned to Group B: complete the activities in each box. Feel free to discuss with anyone around you who is also assigned to Group B. When you are done, pair up with a peer from group A. You have Group A's "answer key," and they have yours! Work together to check and correct your work as necessary.

### Group B Activities

<p>Evaluate:  <math>(-5)^3(2 - 4)</math></p>	<p>Evaluate:  <math display="block">\frac{9}{ 2 - 8  + 7 - 4}</math></p>	<p>Evaluate using the given values:  <math>pr - q^2 \div 2</math>; <math>p = -2, q = 7, r = -1</math></p>
<p>Evaluate using the given values:  <math>yz(x - 2)^2 + 9 - y</math>; <math>x = 6, y = -4, z = 3</math></p>	<p>Explain the two errors in the work below:  <math>(2^3 - 1) - 6 \div 2^2 \div 3 * 5</math>  <math>(8 - 1) - 6 \div 2^2 \div 3 * 5</math>  <math>7 - 3^2 \div 3 * 5</math>  <math>7 - 9 \div 3 * 5</math>  <math>7 - 9 \div 15</math>  <math>7 - \frac{2}{3}</math>  <math>6\frac{1}{3}</math></p>	<p>You have two checks, one for \$58 and one for \$290. You want to split this evenly between your savings and checking account. You entered the expression <math>58 + 290/2</math> on your calculator and received a solution of 203, which you knew was unreasonable. What could you have done on your calculator to avoid this error?</p>

### Group A Solutions

32	$\frac{7}{3}$	-18.5
-226	<p>The second line should not say <math>(-2)^4</math> because exponents come before subtraction. Line three is incorrect because multiplication and division should be operated in the order they appear.</p>	<p>Jane should have grouped the total number of cookies she actually had by putting parentheses around <math>213 - 5</math>.</p>

Name: \_\_\_\_\_ Date: \_\_\_\_\_ **Unit 1 Class Work**