Order of Operations

Fill in the guided notes as you watch the video in the Digital Toolbox.

- Use the acronym _____ to help you remember the order to simplify expressions.
- PEMDAS stands for _____ arentheses, _____ xponents, _____ ultiplication/_____ ivision, and _____ ddition/_____ ubtraction.
- Parentheses means any _____ symbol including absolute value bars.
- _____ include any square roots since exponents and square roots are related.
- Multiplication/division are simplified from _____ across the expression.
- Addition/subtraction are simplified from left to right across the _____ .
- The addition/subtraction symbols are natural breaks in the expression. You can simplify a large expression into a few smaller ones by adding _____ where you find addition and subtraction symbols.

Example 1

Complete the example as you watch the video in the Digital Toolbox.

Evaluate.

$$3^3 + 4 \div \left(\frac{1}{2}\right)^2 - 4(1-3)^2 + |-5+3| + \sqrt{25}$$

Implement

Explain

Group the expression using the addition and subtraction symbols

P: parentheses
E: exponents

M/D: multiply or divide from left to right

A/S: add or subtract from left to right

Example 2

Complete the example as you watch the video in the Digital Toolbox.

Evaluate.

$$-4|-3-2|+2^3-(5+1)^2\div 12$$

Implement

Explain

Group the expression using the addition and subtraction symbols

Practice

Complete the problems. Show your work.

1) $4^2 \div 8 + 3(1-2)^4 - |-5|$

2) $\left|2^3 - 3^3\right| + 15 \div 5 - 2 + \sqrt{16}$

3) $|5-(-2)| - 6(-3) + 3|-4| \div 6$

4) $-6^2 \div 3 - 2^2(83-81)^2$

5) $\sqrt{4^2+3^2} + (2-4)^2$

6) $(3 + |7-8| \cdot 9)^2 \div (5 + |-6-11|)$

Complete the problems. Show your work.

7) $|78-75|\cdot(-15)+5^2\cdot 3\div 5$

8) $-\sqrt{81}\div 3+16\cdot\frac{1}{2}\div\sqrt{64}$

9) $(128-(5(2+1))+6(10-8))\div 5$

10) $2^3-\frac{1}{3}\sqrt{81}\cdot 4+\frac{4}{5}\sqrt{100}$

11) $\left|13-(8-2)^2+\sqrt{121}\right|$

12) $17-30\div 2\cdot 3+85$