"I Can Apply the Order of Operations to Simplify a Numerical Expression."

Numerical Expressions

We can think of many different activities that require us to follow a specific order when completing the task. In order to evaluate expressions we need to follow a specific order for doing operations.

P

E

M ←→ D

A ←→ S

Let's start by making a decision what we should do first.

$15 - (5 \times 2)$ $(8 \times 4) + (2 \times 3)$ $8 + 16 \div (9 - 5)$

1. $14-5+6$	2. $8+9+1-3+7$
3. $4 \cdot 6 \div 2$	4. $15 \div 3 \cdot 4 \div 10$

5. $4+8\div4-5$	6. $18-4\cdot5\div2+14$
7. $(1+5)\cdot6$	8. $2\cdot(26+5)-15$
9. $18\div(2+7)\cdot2+1$	10. $(30+5)\div(12-5)+8\cdot4$

Two numerical expressions are **equivalent** if _____.

Which of the following statements are true about the following expressions?

$18-(6\times2)$ $(18+6)\times2$

I. The two expressions are equivalent

II. The first expression is eight times as large as the second expression.

III. Both expressions are numerical expressions.

"I Can Apply the Order of Operations to Simplify a Numerical Expression."

Numerical Expressions

We can think of many different activities that require us to follow a specific order when completing the task. In order to evaluate expressions we need to follow a specific order for doing operations.

P - Parenthesis ( )

E - Exponents

M ↔ D - • and ÷ *Whichever comes First*

A ↔ S - + and - *Whichever comes First*

Let's start by making a decision what we should do first.

$15 - (5 \times 2)$

$15 - 10$

5

$(8 \times 4) + (2 \times 3)$

$32 + 6$

38

$8 + 16 \div (9 - 5)$

$8 + 16 \div 4$

$8 + 4$

12

1. $14 - 5 + 6$ $9 + 6$ 15	2. $8 + 9 + 1 - 3 + 7$ $17 + 1 - 3 + 7$ $18 - 3 + 7$ $15 + 7$ 22
3. $4 \cdot 6 \div 2$ $24 \div 2$ 12	4. $15 \div 3 \cdot 4 \div 10$ $5 \cdot 4 \div 10$ $20 \div 10$ 2

5. $4+8\div4-5$

$4+2-5$

$6-5$

1

P
E
M D
A S

6. $18-4\cdot5\div2+14$

$18-20\div2+14$

$18-10+14$

$8+14$

22

P
E
M D
A S

7. $(1+5)\cdot6$

$6\cdot6$

36

P
E
M D
A S

8. $2\cdot(26+5)-15$

$2\cdot31-15$

$62-15$

47

P
E
M D
A S

9. $18\div(2+7)\cdot2+1$

$18\div9\cdot2+1$

$2\cdot2+1$

$4+1$

5

P
E
M D
A S

10. $(30+5)\div(12-5)+8\cdot4$

$35\div7+8\cdot4$

$5+8\cdot4$

$5+32$

37

P
E
M D
A S

Two numerical expressions are **equivalent** if they have the same value.

Which of the following statements are true about the following expressions?

$18-(6\times2)$ $(18+6)\times2$

$18-12$ $24\cdot2$

6 48

I. The two expressions are equivalent

II. The first expression is eight times as large as the second expression.

III. Both expressions are numerical expressions.