

Order of Operations with Rational Numbers

Name: _____ Date: _____

LEARNING OBJECTIVE

Students will apply the order of operations to evaluate expressions containing integers, fractions, and decimals.

MATERIALS NEEDED

- 2 dice
- index cards labeled with +, -, x, ÷, ()
- notebook paper
- pen or pencil

HANDS-ON ACTIVITY

1. Roll the dice 4 times to get 4 numbers, and turn 2 of them negative by writing a minus sign in front (your choice which two).
2. Draw 3 operation cards (from your +, -, x, ÷ set, including at least one parentheses card) and arrange your 4 numbers and operations into one full expression, e.g., $(-3 + 5) \times 2 - 4$.
3. Solve your expression step-by-step on paper, clearly labeling which operation (parentheses, multiplication/division, addition/subtraction) you do at each step.
4. Build and solve one more expression, this time including at least one fraction or decimal among your 4 numbers.

QUESTIONS

1. Write your first full expression and its final answer.

2. What does the acronym PEMDAS stand for, and why does the order matter?

3. In your second expression, which step did you do first, and why?

4. Show one example of a mistake someone might make by ignoring the order of operations, and give the wrong answer it would produce.
