Number

Activity 8 Assessment

Order of Operations with Rational Numbers

Content: Order of Operations with Rational Numbers			
Applies the order of operations to evaluate expressions without exponents $2 + 5 \times 4 \div (3 - 1)$ **"I did the subtraction in the brackets first.** $(3 - 1) = 2$ **Then, I multiplied and divided.** $5 \times 4 = 20$ and $20 \div 2 = 10$ **Then, I added.** $2 + 10 = 12$"	Applies the order of operations to evaluate expressions with rational numbers, including brackets and exponents $3^2 + (2.1 - 3.8) \times (-\frac{1}{2})$ **"I did the subtraction in the brackets first.** $2.1 - 3.8 = -1.7$ **Then, I did the exponent.** $3^2 = 9$ **Then, I multiplied.** $-1.7 \times (-\frac{1}{2}) = -1.7 \times -0.5$ $= 0.85$ **Then, I added.** $9 + 0.85 = 9.85$"	Writes an expression that could be used to solve a contextual problem involving the order of operations A student has been hired to paint a 5.5-m by 5.5-m ceiling. They charge $\$15/m^2$. They paid \$53.25 for paint and needed two roller refills at \$7.25 each. How much profit did the student make? "I wrote this expression, considering the order in which the operations should be performed: $(5.5)^2 \times 15 - 53.25 - 2 \times 7.25$"	Creates and solves a contextual problem involving the order of operations with rational numbers "Cathy bought some party supplies: 2 packages of napkins for \$2.25 each, a package of balloons for \$1.79, and 3 streamers for \$3.29 each. Everything was taxed at 13%. Cathy paid with a \$20 bill. How much change did Cathy get? $20 - (2.25 \times 2 + 1.79 + 3 \times 3.29) \times 1.13$ I used the order of operations to evaluate the expression. Cathy got \$1.75 in change. I rounded to the nearest nickel."
Observations/Documentation			

Number

Activity 8 Assessment

Order of Operations with Rational Numbers

Competency: Communication			
Communicates that there is an order in which operations should be performed "Operations have to be performed in a certain order to be sure everyone gets the same answer."	Communicates the order in which operations should be performed "When evaluating an expression, we should follow BEDMAS: brackets, then exponents, then division and multiplication, then addition and subtraction."	Communicates the rationale behind the order of operations "Brackets are done first because what's in them needs to be treated as a single number. Then, exponents as they represent repeated multiplication. Then division and multiplication because they involve groups, and finally that leaves addition and subtraction."	Communicates how to solve a real-world problem involving the order of operations "First, I list the operations needed to solve the problem, and the order in which they need to be performed. I then write the expression, using brackets when necessary, and follow BEDMAS to evaluate the expression."
Observations/Documentation			