Order of Operations with Integers

SWBAT simplify expressions involving integers using the order of operations

Review – Order of Operations

- P
- E
- M
- D
- A
- S

- Parenthesis
  - Any grouping symbol, ( ), [ ], { }
- Exponents
  - Repeated Multiplication 2^3
- Multiplication and Division
  - From left to right
- Addition and Subtraction
  - From left to right

Integer rules

- Adding
  - Same signs – add the digits and keep the sign
  - Different signs – subtract the absolute values and keep the sign of the number with the larger absolute value
- Subtracting
  - Rewrite as addition by using the opposite of the subtrahend
- Multiplying/Dividing
  - Even number of negatives – answer is positive
  - Odd number of negatives – answer is negative
- How do you think integers will affect order of operations?
  - Keep the same order, and remember your rules

Examples

- $-4[6 + (8 - 5)^2]$
- $4 \times \{[6 - (-4)]^2 \times 15\} + (-5)$
- $16 - (-279) \div 31$
- $-16 - 4 \ \ (1 + 1)^2$
- $24(-36 + 45) - (-21) - 38 \times 3$

Do the Try these problems on your paper

- $-62 - 84 \div -4 + 33$
  - $-62 + (-84) \div -4 + 33$
  - $-62 + 21 + 33$
  - $-41 + 33$
  - -8
- $-92 \cdot (-91 + 93) \div -23$
  - $-92 \cdot 2 \div -23$
  - $-46 \div -23$
  - 2
- $71 + (-175) - 56 \div -8$
  - $71 + (-175) + -56 \div -8$
  - $71 + (-175) + 7$
  - $-104 + 7$
  - -97
- $3 \cdot -16 - 36^2 \div -12$
  - $3 \cdot -16 + -36^2 \div -12$
  - $3 \cdot -16 + -1296 \div -12$
  - $-48 + -1296 \div -12$
  - $-48 + 108$
  - 60

Exit Ticket

- On a scrap paper solve the following expression using the order of operations.
- You may not leave until you have completed and handed in the following problem.
- Watch your signs and show your steps.
- $7 - (-9 - 5) \cdot 22$