

Simplifying Expressions

Brackets [] can be used as grouping symbols. When an expression has several grouping symbols, simplify the innermost expression first. (Use PEMDAS inside the brackets, then work outside the brackets.)

Ex) Simplify $2 [(13-7)^2 \div 3]$.

First simplify $(13-7)$: $2 [6^2 \div 3]$

Simplify the exponent: $2 [36 \div 3]$

Divide within the brackets: $2 [12]$

Multiply $= \underline{\underline{24}}$

Answer = 24

Practice: (with neighbor)

1) $5 [4 + 3(2^2 + 1)]$ (95)

2) ~~42 + 3[48~~ $5 + [(2+1)^3 - 3]$ (29)

A fraction bar is also a grouping symbol. Do the calculations above and below the fraction bar before simplifying the fraction.

Ex) $\frac{2+8}{5-3} = \frac{10}{2}$

Practice:

1) $\frac{6-10}{2(4+2)}$

$-\frac{4}{12} = -\frac{1}{3}$

2) $\frac{2^4}{2(20 \div 5)} = \frac{16}{8} = 2$