

Warm-Up

Nov. 7th

Simplify

$$5^{4-3} + 1$$

Handwritten annotations: circled 1s above the 4, 3, and +, with arrows pointing to the exponents and the plus sign.

$$5^1 + 1$$
$$6$$

$$5^{\cancel{1}} = 5$$

2.1.4

Powers and the Order of Operations

P. 44

Grouping

Procedure – Order of Operations

Beginning with the **innermost** grouping idea and working out;

Explicit Grouping (), [], { }

Implicit Grouping

P. 3

Operations in the numerators and denominators of fractions

Operations in Radicands

Operations in Exponents

1. Start to the left and work right simplifying each operation beyond the basic four as you come to them.
2. Start again to the left and work right simplifying each multiplication or division as you come to them.
3. Start again to the left and work right simplifying each addition or subtraction as you come to them.

.Count the number of operators, discuss the order and then simplify the expression.

$$\left[\frac{6 - 4(-1) + 6}{(3+3) - 1 - (-4)} \right]^3$$

Operator count: 7 (3, 1, 7, 6, 4, 5, 2)

$$\left[\frac{6^4}{(3+3)^4} \right]^3$$

$$\left[\frac{6^4}{6^3} \right]^3$$

$$\left[\frac{1296}{216} \right]^3$$

$$[6]^3 = 216$$

Count the number of operators, discuss the order and then simplify the expression.

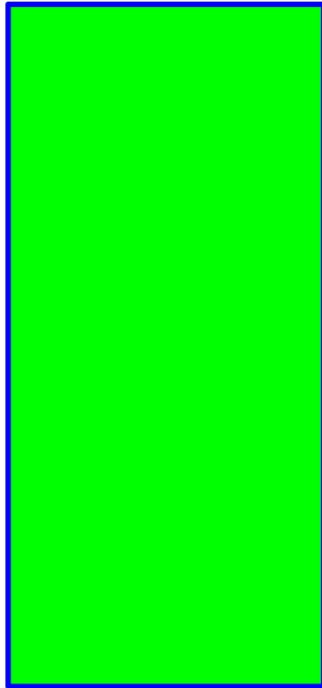
$$(7-12)^{2-(-1)} - (10-6)^{2+3}$$

$$\begin{array}{r} -5^3 \quad - \quad 4^5 \\ -125 \quad - \quad 1024 \end{array}$$

$$\textcircled{-1,149}$$

Simplify

$$\frac{3^{2+1} \cdot 5 \cdot 2^{4-3}}{5 \cdot 1+1}$$



Homework (due Fri)
p. 44 (27 - 36)

