

Section 1.4: Evaluating Expressions

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9:59 AM

order of operations:

B - brackets
E - exponents
D } division & multiplication
M }
A } addition & subtraction
S }

note: in terms of order of operations, the following have the same order as brackets:

$\sqrt{\quad}$ - square root

$||$ - absolute value

$\frac{\quad}{\quad}$ - fraction bar

example: which operation do I do first?

$$\frac{2+3}{8+7} = \frac{5}{15} = \frac{1}{3}$$

addition!

examples:

$$|5 - 11| + 2 \cdot 3 = |-6| + 6 = 6 + 6 = 12$$

$$\sqrt{(2+3)5} = \sqrt{5 \cdot 5} = 5$$

exponential expressions:

$$a^n = \underbrace{a \cdot a \cdot a \cdot \dots \cdot a}_n$$

where $a = \text{base}$
 $n = \text{exponent}$

examples:

$$2^4 = 16$$

$$-2^4 = -(2^4) = -16$$

$$(-2)^4 = (-2)(-2)(-2)(-2) = 16$$

note: $-2^4 = 0 - 2^4 = -16$

easier to see