Order of Operations: PEMDAS

Summary

Order of Operations

- 1. Perform any operation(s) inside grouping symbols.
- 2. Simplify powers.
- 3. Multiply and divide in order from left to right.
- 4. Add and subtract in order from left to right.

Simplify.

Why can't you divide just the 8 by 4?

because this fraction really means: (§ -3) ÷

And by Order of Operations you must subtract before you divide.

If you wanted to divide first you would have to divide both the 8 and the 3 by 4, then you could subract.

Simplify using order of operations

WITHOUT A CALCULATOR

$$4 - 2(13 - (7 + 3))^2$$

Could be written as

$$= 4 - 2 \left[13 - (10) \right]^{2}$$

$$= 4 - 2 \left[3 \right]^{2}$$

$$= 4 - 2(9)$$

= $4 - 18 = -14$

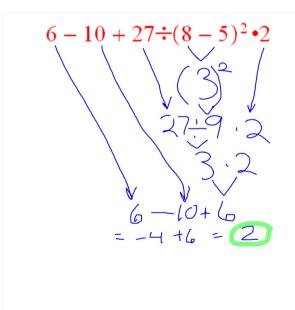
$$12 \div \left(10 - 2^3\right) \cdot 10$$

$$2 - (5 + 1) \div (9 - 2)$$

$$= 2 - 6$$

$$= 2 - \frac{6}{7}$$

$$= \frac{1}{7} \text{ or } \frac{8}{7}$$



Simplify.
$$9-4^{2}(\frac{24}{6}\div 2\cdot 5)\div 8$$

$$(4\div 2\cdot 5)$$

$$(-4\cdot (10) \div 8)$$

$$(-16\cdot (10) \div 8)$$

$$(-16\cdot -8)$$

$$(-16\cdot -8)$$

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