Recall:

1. Grouping symbols: (), [], | |, $\sqrt{\ }$, — (fraction bar)
2. Exponents/roots from left to right
3. Multiplication/division from left to right
4. Addition/subtraction from left to right

For each exercise below, simplify.

1. $-30 \div 2 \cdot (-3) + 21$

$= -15 \cdot (-3) + 21$

$= 45 + 21$

$= \boxed{66}$

2. $-14 - 4 \cdot (-3)^2 + 5$

$= -14 - 4 \cdot 9 + 5$

$= -14 - 36 + 5$

$= -50 + 5$

$= \boxed{-45}$

3. $|19 - 29| \div 2 + [14 - 2(-6)] \div (-13)$

$= |-10| \div 2 + [14 - (-12)] \div (-13)$ $\quad 14 - (-12) = 14 + 12 = 26$

$= 10 \div 2 + [26] \div (-13)$

$= 5 + [26] \div (-13)$

$= 5 + (-2)$

$= \boxed{3}$

4. $\{15 - 4[2 + (-5)]\} - 40 \div \sqrt{9 + 16}$ (Note: the curly braces {} work like parentheses here)

$= \{15 - 4[-3]\} - 40 \div \sqrt{25}$

$= \{15 - (-12)\} - 40 \div \sqrt{25}$ $\quad 15 - (-12) = 15 + 12 = 27$

$= \{27\} - 40 \div \sqrt{25}$

$= 27 - 40 \div 5$

$= 27 - 8$

$= \boxed{19}$

5. $\frac{-|14-3^2|^2}{3(-12)+11}$ $= \frac{-|14-9|^2}{-36+11}$

$= \frac{-|5|^2}{-25}$

$= \frac{-5^2}{-25}$ $\quad -5^2 = -(5 \cdot 5) = -25$

$= \frac{-25}{-25}$

$= \boxed{1}$

Q: What five-letter word becomes shorter when you add two letters to it?