ORDER OF OPERATIONS

1. Do operations that occur within grouping symbols.
2. Evaluate exponents.
3. Do multiplication and division from left to right.
4. Do addition and subtraction from left to right.

EXAMPLES: Use the order of operations

1. $15 + 6 \quad 2$

$15 + 12$

27

2. $2 \cdot 3^2 + 5$

$2 \cdot 9 + 5$

$18 + 5$

23

3. $2^4 - 5 \cdot 3$

$16 - 5 \cdot 3$

$16 - 15$

1

4. $16 \div 4 \cdot 2 + 5^2$

$16 \div 4 \cdot 2 + 25$

$4 \cdot 2 + 25$

$8 + 25$

33

Evaluate the variable expression when r

5. $m^2 - 2 \cdot 3$

$3^2 - 2 \cdot 3$

$9 - 2 \cdot 3$

$9 - 6$

$\boxed{3}$

6. $\frac{15}{m} + 3^2 - 210$

$\frac{15}{3} + 2^3 - 10$

$\frac{15}{3} + 8 - 10$

$5 + 8 - 10$

$13 - 10 = \boxed{3}$

7. $m + 3^4 m$

$3 + 3 \cdot 3^4$ or $3 + 3(3)^4$

$3 + 3 \cdot 81$

$3 + 243$

$\boxed{246}$

8. $\frac{24}{m} \cdot 5$

$\frac{24}{3} \cdot 5$

$8 \cdot 5$

$\boxed{40}$

The fraction bar is another grouping symbo
It indicates that the numerator and deno
should each be treated as a single value

$\frac{(16 + 8)}{(8 - 2)} \longrightarrow (16 + 8) \div (8 - 2)$

TRY $\frac{9 \cdot 4 + 2}{5 - 1} = \frac{36 + 2 \cdot 6}{25 - 1} = \frac{36 + 12}{24} = \frac{48}{24} = \boxed{2}$

9. $\dfrac{13 - 4}{18 \quad ^{2} \quad 4 \; 1}$ $= \dfrac{9}{18-16+1} = \dfrac{9}{2+1} = \dfrac{9}{3} = \boxed{3}$

10. Evaluate the variable expression = 4w

$\dfrac{x - \quad 2}{x^{2} - \quad \cdot 2 \quad 5}$

$\dfrac{4-2}{4^{2}-2\cdot 5} = \dfrac{2}{16-2\cdot 5} = \dfrac{2}{16-10} = \dfrac{2\div 2}{6\div 2} = \boxed{\dfrac{1}{3}}$

(11) $4(1+5)^2 \div 8$

$4(6)^2 \div 8$

$4 \cdot 36 \div 8$

$144 \div 8$

$\boxed{18}$

(12) $2[30-(8+13)]$

$2[30-21]$

$2 \cdot 9$

$\boxed{18}$