

# 3.6: Order of Operations

inside  
brackets  
Follow correct  
Order of  
Operations

( ) [ ] { }	<b>B</b>
brackets or grouping symbols	
M D S A P E R	<b>E</b>
	Root + 5 <sup>2</sup>

Example

$$17 - 5 \div (2 + 3) + 1$$

$$17 - 5 \div 5 + 1$$

$$17 - 1 + 1$$

$$16 + 1$$

$$17$$

<b>D</b>	L → R	<b>M</b>
Division		Multiplication
<b>A</b>	L → R	<b>S</b>
Addition		Subtraction

always divide and multiply from left to right.

always add and subtract from left to right.

ex(1):  $6 \times 15.9 + 36.4 \div 4$

$$\begin{array}{r} 9.1 \\ 4 \overline{)36.4} \\ \underline{-36} \downarrow \\ 04 \\ \underline{-4} \\ \text{OR} \end{array}$$

$$95.4 + 36.4 \div 4$$

$$95.4 + 9.1 \\ 104.5$$

$$\begin{array}{r} 315.9 \\ \times 6 \\ \hline 95.4 \end{array}$$

$$\begin{array}{r} 95.4 \\ + 9.1 \\ \hline 104.5 \end{array}$$

ex(2):  $1.44 \div 0.3 + (4.75 - 1.2) + 2.45 \times 0.2$

$$\begin{array}{r} 4.75 \\ - 1.20 \\ \hline 3.55 \end{array}$$

$$1.44 \div 0.3 + 3.55 + 2.45 \times 0.2$$

$$4.8 + 3.55 + 2.45 \times 0.2$$

$$\begin{array}{r} 4.8 \\ 3 \overline{)14.4} \\ \underline{-12} \downarrow \\ 24 \\ \underline{-24} \\ \text{OR} \end{array}$$

$$\begin{array}{r} 4.800 \\ + 3.550 \\ + 0.490 \\ \hline 8.840 \end{array}$$

$$4.8 + 3.55 + 0.490$$

$$8.84$$

$$\begin{array}{r} 2.45 \\ \times 0.2 \\ \hline 490 \end{array}$$

