



## 7th Grade Lesson 52

- I can follow order of operations when simplifying an expression.
- I can follow the order of operations when evaluating expressions with variables.

### Order of Operations

$\{ \}$  $3^2$ $\sqrt{\quad}$	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>( )</math>  <math>[ ]</math> </div> <b>P</b>	parentheses and groupings	$17 - 5^2 \div (2 + 3)$  $17 - 5^2 \div 5$  $17 - 25 \div 5$  $17 - 5$  <span style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">12</span>
<b>E</b>	exponents and roots		
<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>\leftarrow</math>  <b>M</b>  <math>\cdot</math> <math>\times</math> <math>(x)</math> </div> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>\rightarrow</math>  <b>D</b>  <math>\div</math> <math>-</math> </div> </div>	multiply and divide - left to right		
<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>\leftarrow</math>  <b>A</b>  <math>+</math> </div> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>\rightarrow</math>  <b>S</b>  <math>-</math> </div> </div>	add and subtract from left to right		

Simplify:  $2 + 4 \times 3 - 4 \div 2$ 

$$2 + 12 - 2$$

$$14 - 2$$

$$(12)$$

Simplify:

$$\frac{3^2 + 3 \cdot 5}{2}$$

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

$$9 + 3 \cdot 5 \div 2$$

$$9 + 15 \div 2$$

$$9 + 7\frac{1}{2}$$

$$(16\frac{1}{2})$$

not  
the  
same

$$\frac{9 + 3 \cdot 5}{2}$$

$$\frac{9 + 15}{2}$$

$$\frac{24}{2}$$

$$(12)$$

Evaluate:  $a + ab$  if  $a = 3$  and  $b = 4$

$$\begin{aligned} a + ab & \quad a = 3 \\ & \quad b = 4 \\ 3 + 3 \cdot 4 & \\ 3 + 12 & \\ \textcircled{15} & \end{aligned}$$

Evaluate:  $xy - \frac{x}{2}$  if  $x = 9$  and  $y = \frac{2}{3}$

$$\begin{aligned} xy - \frac{x}{2} & \quad x = 9 \\ & \quad y = \frac{2}{3} \\ 9 \cdot \frac{2}{3} - \frac{9}{2} & \\ 6 - \frac{9}{2} & \\ 6 - 4\frac{1}{2} & \\ \textcircled{1\frac{1}{2}} & \end{aligned}$$

The background of the slide is a light blue gradient with horizontal stripes. It is decorated with several white and light blue snowflakes of various sizes and small white stars scattered throughout.

**Assignment:**

Lesson 52 Practice  
pgs. 358-359 (a - g)

**\*\*bring binder tomorrow**