



## 8th Grade Lesson 42

- I can identify symbols of inclusion.
- I can divide correctly using order of operations.

$$3x = 18$$

$$\frac{3x}{3} = \frac{18}{3}$$

⑥  $x = 6$

$$3x \div 3 = 18 \div 3$$

$$3 \div 3x = 18 \div 3$$

$$\frac{3}{3x} = \frac{1}{x}$$

$$\frac{2}{3} \cdot \frac{3}{2}x = \frac{7}{8} \cdot \frac{2}{2}x$$

$$x = \frac{21}{16}$$

$$\frac{1}{3} \cdot 3x = 18 \cdot \frac{1}{3}$$

$$\frac{3x}{3} = \frac{18}{3}$$

$$\left(\frac{6}{1}\right) \cdot \frac{x}{6} = 18 \cdot 6$$

$\frac{12 \cdot x}{6 \cdot 6} = 18 \cdot 6$	$6 \cdot \frac{x}{6}$
$6 \cdot \frac{x}{6} = 18 \cdot 6$ $x = 108$	

Parentheses can be used to group numbers together and in the order of operations, grouping symbols (parentheses are an example) are to be simplified first.

$$4 + (3 \cdot 5)2 + 2(15 - 3)$$

$$4 + (15)2 + 2(12)$$

$$4 + 30 + 24$$

$$34 + 24$$

$$58$$

$$8(20 - 3) - (17 - 11 + 3)2 + 5$$

$$8(17) - (6 + 3)2 + 5$$

$$8(17) - (9)2 + 5$$

$$136 - 18 + 5$$

$$118 + 5$$

$$123$$

Brackets, like parentheses, are a **symbol of inclusion**.

$$24 - 2[(5 - 2)(14 - 12) + 3]$$

$$33 - 2[3(3 + 12) - (5 \cdot 2)3]$$

### ORDER OF OPERATIONS

1. Simplify within parentheses or other grouping symbols.
2. Simplify exponential expressions.
3. Multiply and Divide in order from left to right.
4. Add and Subtract in order from left to right.

$$5 + 12 \div 2 + 3 \cdot 4 - 2(5 - 2)$$



## **Assignment:**

Problem Set 42