

**1.3****Order of Operations**

For use with Activity 1.3

**Essential Question** What is the effect of inserting parentheses into a numerical expression?

**1 ACTIVITY:** Comparing Different Orders

**Work with a partner. Find the value of the expression by using different orders of operations. Are your answers the same? (Circle *yes* or *no*.)**

- |                                    |                             |        |
|------------------------------------|-----------------------------|--------|
| <b>a.</b> Add, then multiply.      | Multiply, then add.         | Same?  |
| $3 + 4 \times 2 =$ _____           | $3 + 4 \times 2 =$ _____    | Yes No |
| <b>b.</b> Add, then subtract.      | Subtract, then add.         | Same?  |
| $5 + 3 - 1 =$ _____                | $5 + 3 - 1 =$ _____         | Yes No |
| <b>c.</b> Divide, then multiply.   | Multiply, then divide.      | Same?  |
| $12 \div 3 \cdot 2 =$ _____        | $12 \div 3 \cdot 2 =$ _____ | Yes No |
| <b>d.</b> Divide, then add.        | Add, then divide.           | Same?  |
| $16 \div 4 + 4 =$ _____            | $16 \div 4 + 4 =$ _____     | Yes No |
| <b>e.</b> Multiply, then subtract. | Subtract, then multiply.    | Same?  |
| $8 \times 4 - 2 =$ _____           | $8 \times 4 - 2 =$ _____    | Yes No |
| <b>f.</b> Multiply, then divide.   | Divide, then multiply.      | Same?  |
| $8 \cdot 4 \div 2 =$ _____         | $8 \cdot 4 \div 2 =$ _____  | Yes No |

**1.3** Order of Operations (continued)

g. Subtract, then add.      Add, then subtract.      Same?  
 $13 - 4 + 6 =$  \_\_\_\_\_       $13 - 4 + 6 =$  \_\_\_\_\_      Yes    No

h. Multiply, then add.      Add, then multiply.      Same?  
 $1 \times 2 + 3 =$  \_\_\_\_\_       $1 \times 2 + 3 =$  \_\_\_\_\_      Yes    No

**2** ACTIVITY: Using Parentheses

Work with a partner. Use all the symbols and numbers to write an expression that has the given value.

<i>Symbols and Numbers</i>	<i>Value</i>	<i>Expression</i>
a. ( ), +, ÷, 3, 4, 5	3	_____
b. ( ), -, ×, 2, 5, 8	11	_____
c. ( ), ×, ÷, 4, 4, 16	16	_____
d. ( ), -, ÷, 3, 8, 11	1	_____
e. ( ), +, ×, 2, 5, 10	70	_____