

# Activity 4 Assessment

## The Order of Operations

Variables and Equations			
<p>Evaluates a numerical expression using the order of operations</p> $2 \times (30 + 18) - 3 = 2 \times 48 - 3$ $= 96 - 3$ $= 93$ <p>“I have to do the operation in brackets first, then the multiplication, and then the subtraction.”  <i>(« Je dois d'abord effectuer l'opération entre parenthèses, puis la multiplication et enfin la soustraction. »)</i></p>	<p>Writes an algebraic expression to describe an unknown value</p> <p>Subtract five from a number then multiply by two</p> $(n - 5) \times 2$ <p>“I let <math>n</math> represent the number. I used brackets so 5 would be subtracted first.”  <i>(« J'ai laissé <math>n</math> représenter le nombre. J'ai utilisé des parenthèses pour que 5 soit soustrait en premier. »)</i></p>	<p>Evaluates an algebraic expression using substitution</p> $(n - 5) \times 2$ <p>“To find the value of the expression when <math>n</math> equals 12, I substitute 12 for <math>n</math>.”  <i>(« Pour trouver la valeur de l'expression lorsque <math>n</math> est égal à 12, je remplace <math>n</math> par 12. »)</i></p> $(n - 5) \times 2 = (12 - 5) \times 2$ $= 7 \times 2$ $= 14$	<p>Solves equations involving one operation using different strategies</p> $23 = e + 15$ $23 - 15 = e + 15 - 15$ $8 = e$ <p>“I used the inverse operation, subtracting 15 from each side.”  <i>(« J'ai utilisé l'opération inverse en soustrayant 15 de chaque côté. »)</i></p>
Observations/Documentation			

# Activity 4 Assessment

## The Order of Operations

### Variables and Equations (cont'd)

Solves equations involving two operations using different strategies

$$29 = 3z + 2$$

$$29 - 2 = 3z + 2 - 2$$

$$27 = 3z$$

$$\frac{27}{3} = \frac{3z}{3}$$

$$9 = z$$

“I performed the order of operations in the reverse order to isolate the variable. I subtracted 2 from each side, then divided each side by 3.”  
 (« J'ai effectué l'ordre des opérations dans l'ordre inverse pour isoler la variable.  
 J'ai soustrait 2 de chaque côté, puis j'ai divisé chaque côté par 3. »)

Verifies the solution to an equation

$$29 = 3z + 2$$

“To verify, substitute  $z = 9$ .

$$\begin{aligned} \text{Left side} &= 29 \\ \text{Right side} &= 3(9) + 2 \\ &= 27 + 2 \\ &= 29 \end{aligned}$$

Since the left side equals the right side, my solution is correct.”

(« Pour vérifier, remplacer  $z = 9$ .

$$\begin{aligned} \text{Côté gauche} &= 29 \\ \text{Côté droit} &= 3(9) + 2 \\ &= 27 + 2 \\ &= 29 \end{aligned}$$

Puisque le côté gauche est égal au côté droit, ma solution est correcte. »)

Solves problems using equations involving one or two operations

Kairis sold 16 tickets.  
 That is twice as many tickets as Grace sold.  
 How many tickets did Grace sell?

Let  $t$  represent the number of tickets Grace sold.

$$2t = 16$$

$$\frac{2t}{2} = \frac{16}{2}$$

$$t = 8$$

“So, Grace sold 8 tickets.”  
 (« Donc, Grace a vendu 8 billets. »)

Flexibly works with equations to solve problems using a variety of strategies

At the grocery store, there are 5 lines of people at the checkouts. There are the same number of people in each line. The manager counts to determine the total number of people at the checkouts, including 6 employees (including the manager). They counted 51 people. How many people are in each line?  
 Let  $n$  represent the number of people in each line.

$$5n + 6 = 51$$

$$5n + 6 - 6 = 51 - 6$$

$$5n = 45$$

$$n = 9$$

“I know  $5 \times 9 = 45$ , so  $n = 9$ . There are 9 people in each line.”  
 (« Je sais que  $5 \times 9 = 45$ , donc  $n = 9$ . Il y a 9 personnes dans chaque file. »)

### Observations/Documentation