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

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables and Equations (cont’d)** | | | |
| Solves equations involving two operations using different strategies  29 = 3*z* + 2  29 − 2 = 3*z* + 2 − 2  27 = 3*z*  =   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 = 3*z* + 2  “To verify, substitute *z* = 9.  Left side = 29  Right side = 3(9) + 2  = 27 + 2  = 29  Since the left side equals the right side, my solution is correct.”  *(« Pour vérifier, remplacer z = 9.*  *Côté gauche = 29*  *Côté droit = 3(9) + 2*  *= 27 + 2*  *= 29*  *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.  2*t* = 16  =   *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.  5*n* + 6 = 51  5*n* + 6 – 6 = 51 – 6  5*n* = 45  *n* = 9  “I know 5 × 9 = 45, so *n* = 9. There are 9 people in each line.”  *(« Je sais que 5 x 9 = 45, donc n = 9*  *Il y a 9 personnes dans chaque file. »)* |
| **Observations/Documentation** | | | |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Using Variables to Represent a Problem as an Equation** | | | |
| Interprets word problems/pictures and identifies the unknown part  Our class needs to set up rows  of 6 chairs for a presentation.  There are 30 chairs altogether.  How many rows do we need?  A grey scale with blue and red cubes  Description automatically generated  “The unknown is the number of rows of 6 chairs needed to make an array of 30 chairs.”  *(« L'inconnue est le nombre de rangées de 6 chaises nécessaires**pour obtenir une matrice de 30 chaises. »)* | Translates word problems into equations using variables, operations, and numbers  A row of blue chairs  Description automatically generated  “The unknown, *n*, is the number of rows. I know there are 6 chairs in each row and a total of 30 chairs.  So, 6*n* = 30.”  (« L'inconnue, n, est le nombre de rangées. Je sais qu'il y a 6 chaises dans chaque rangée et un total de 30 chaises. Donc, 6n = 30. ») | Describes equivalent relationships using more than one equation (including formulas)  A square with black text and numbers  Description automatically generated  “I know the area of a rectangle is base multiplied by height, which is 30. If the base is 6, then the height must be n. I could write the equation 30 = 6n or 30 ÷ 6 = n.”  *(« Je sais que l'aire d'un rectangle est la base multipliée par la hauteur, soit 30. Si la base est 6, alors la hauteur doit être n. Je pourrais écrire l'équation 30 = 6n ou 30 ÷ 6 = n. »)* | Flexibly writes algebraic equations using a variety of strategies  6*n* = 30  30 ÷ *n* = 6  “I can use the inverse operation  to rewrite the equation.”  *(« Je peux utiliser l’opération inverse pour réécrire une équation. »)* |
| **Observations/Documentation** | | | |
|  |  |  |  |