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| **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 – 158 = *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** |
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| **Variables and Equations (cont’d)** |
| Solves equations involving two operations using different strategies 29 = 3*z* + 229 − 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 equation29 = 3*z* + 2 “To verify, substitute *z* = 9. Left side = 29 Right side = 3(9) + 2 = 27 + 2 = 29Since 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 strategiesAt 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 = 515*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** |
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| **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 numbersA 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** |
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