Math Virtual Learning

6th Grade Math

Write and Solve One-Step Equations

April 16, 2020

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Lesson: April 16, 2020

Objective/Learning Target:
Students will write and solve one-step equations.

Bell Ringer:

Let's Get Started:

Watch Video: Solving One-Step Equations

Using variables to write algebraic expressions

Statement	Expression
The sum of x and 7	$x + 7$
The difference "14 less than y"	$y - 14$
The product of 8 and w	$8w$
Divide z by 6	$\frac{z}{6}$

Quick Check

Write an algebraic expression for each of the following.

5. The sum of 15 and p
6. The difference "q less than 10"
7. The product of r and 23
8. Divide s by 11.

Bell Ringer: (answers)

Using variables to write algebraic expressions

Statement	Expression
The sum of x and 7	$x + 7$
The difference "14 less than y"	$y - 14$
The product of 8 and w	$8w$
Divide z by 6	$\frac{z}{6}$

Quick Check

Write an algebraic expression for each of the following.

5. The sum of 15 and p $15 + p$
6. The difference "q less than 10" $10 - q$
7. The product of r and 23 $23r$
8. Divide s by 11. $\frac{s}{11}$

Learn:

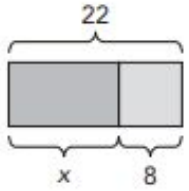
Carrie had some hair clips. After she bought 8 more hair clips, she now has 22 hair clips. How many hair clips did Carrie have at first?

Let x represent the number of hair clips that Carrie had at first.

$x + 8 = 22$

$x + 8 - 8 = 22 - 8$

$x = 14$



Look for clue words in the problem to decide which operation to use in the equation.

Carrie had 14 hair clips at first.

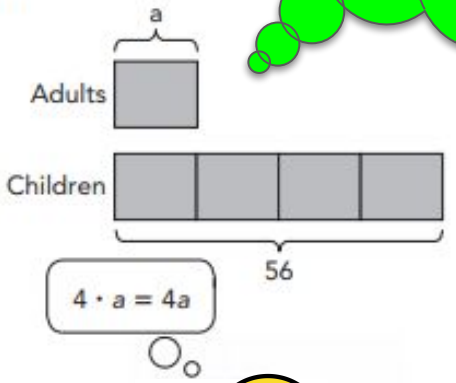
In a swimming club, there are 4 times as many children as adults. If there are 56 children, how many adults are there?

Let a represent the number of adults.

$4a = 56$

$4a \div 4 = 56 \div 4$

$a = 14$



There are 14 adults.

Practice:

Jeremy has collected some money for charity. His friends donate $9 more. Now he has $32. How much money did Jeremy collect at first?

Let y represent the amount of money that Jeremy collected at first.

_____ ◯ _____ = _____

_____ ◯ _____ ◯ _____ = _____ ◯ _____

_____ = _____

Jeremy collected $_____ at first.

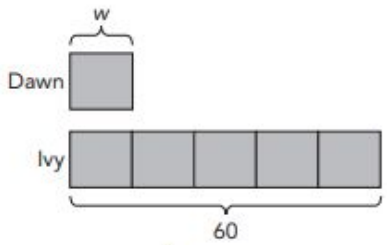
Dawn sold some sandwiches during a fair. Ivy sold 5 times as many sandwiches as Dawn. If Ivy sold 60 sandwiches, how many sandwiches did Dawn sell?

Let w represent the number of sandwiches that Dawn sold.

_____ = _____

_____ ◯ _____ = _____ ◯ _____

_____ = _____



Dawn sold _____ sandwiches.

Practice: *(Answer Key)*

Jeremy has collected some money for charity. His friends donate $9 more. Now he has $32. How much money did Jeremy collect at first?

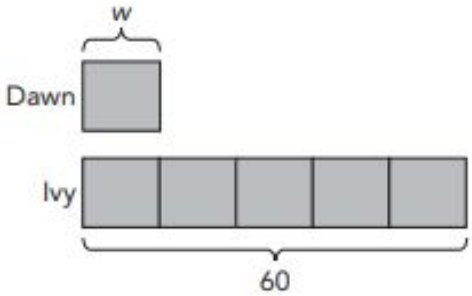
Let y represent the amount of money that Jeremy collected at first.

$$y + 9 - 9 = 32 - 9$$
$$y = 23$$

Jeremy collected $23 at first.

Dawn sold some sandwiches during a fair. Ivy sold 5 times as many sandwiches as Dawn. If Ivy sold 60 sandwiches, how many sandwiches did Dawn sell?

Let w represent the number of sandwiches that Dawn sold.

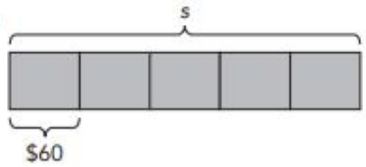


$$5w = 60$$
$$5w \div 5 = 60 \div 5$$
$$w = 12$$

Dawn sold 12 sandwiches.

Learn:

Grace had some savings. She donated $\frac{1}{5}$ of her savings to a charity.
If she donated $60 to the charity, how much was Grace's savings?



Let s represent Grace's savings.

$\frac{s}{5} = 60$

$\frac{s}{5} \times 5 = 60 \times 5$

$\frac{1}{5} \cdot s = \frac{s}{5}$

$s = 300$

Grace's savings was $ 300.

These are a few clue words you can look for when deciding which operation to use in your equation.

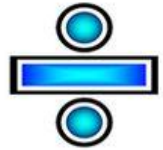
Can you think of more clue words?

The Key Word in Word Problems

Add
Sum
Total
All together
Plus
In all

Multiply
Product
Times
Twice
Total
Multiplied by

Subtract
Remain
Difference
Less than
Fewer
How many more
Minus



Divide
Quotient
Goes into
Split Equally
Each

Practice: Write and solve an algebraic equation

6. When a number is tripled and 8 is subtracted from the result, the answer is 16. What is the number?

7. The difference of two numbers is 117. The greater number is 4 times the other number. What is the smaller number?

8. Jason's age is 3 times Shauna's present age. In 4 years' time, the sum of their ages will be 56 years. Find their present ages.

Practice: *(Answer Key)*

6. When a number is tripled and 8 is subtracted from the result, the answer is 16. What is the number?

6. $3y - 8 = 16$
$3y = 16 + 8$
$y = 8$

7. The difference of two numbers is 117. The greater number is 4 times the other number. What is the smaller number?

7. $4k - k = 117$
$3k = 117$
$k = 39$

8. Jason's age is 3 times Shauna's present age. In 4 years' time, the sum of their ages will be 56 years. Find their present ages.

8. In 4 years' time, Shauna will be $(d + 4)$ years old and Jason will be $(3d + 4)$ years old.
$d + 4 + 3d + 4 = 56$
$4d + 8 = 56$
$4d = 48$

Additional Resources:

Click on the links below to get additional practice and to check your understanding!

SolveMe Mobiles

Khan Academy: Writing One Step Equations

Math Goodies: Writing Equations

Reflection:

Complete a DLIQ reflection about today's lesson.

D	L	I	Q
What did you **DO** in the lesson today?	What did you **LEARN** from today's lesson?	What did you find **INTERESTING** in today's lesson?	What **QUESTIONS** do you still have about today's topic?