

# Week 16

Thursday 9th July 2020

## Year 6 Using algebraic equations to represent word problems - Varied Fluency and Reasoning & Problem Solving

\*Today's lesson has **both Varied Fluency and Reasoning & Problem Solving**. Please complete both sheets (**VF** and **RPS**) as follows:

- **Squares** complete **D**
- **Rectangles & Triangles** complete **E**
- **Circles** complete **GD**

## Word Problems

1a. Use the equation below to fill in the gaps in the word problem.

$$p + 3 = 8$$

I think of a number. I add \_\_\_ to it and my answer is \_\_\_.



6 VF

## Word Problems

1b. Use the equation below to fill in the gaps in the word problem.

$$s - 6 = 10$$

I think of a number. I subtract \_\_\_ from it and my answer is \_\_\_.



6 VF

2a. In which of the options below does the unknown value equal 5?

A.  $2f = 10$

B. 

C. Michael had 14 grapes. He ate some of them. He has 8 grapes left. How many grapes did Michael eat?



6 VF

2b. In which of the options below does the unknown value equal 3?

A.  $17 = y + 14$

B. 

C. Kiara has collected 11 models. Her mum buys her some more. Now Kiara has 16 models. How many did her mum buy?



6 VF

3a. Circle the equation which matches the word problem below.

Cassi thinks of a number. She subtracts 9 from it. Her answer is 4. What was her starting number?

$4n = 9$

$n = 4 - 9$

$4 = n - 9$



6 VF

3b. Circle the equation which matches the word problem below.

Judah thinks of a number. He multiplies it by 2. His answer is 14. What was his starting number?

$2n = 14$

$2 = 14n$

$n + 2 = 14$



6 VF

4a. True or false? The equation matches the word problem below.

$$p - 6 = 15$$

There are some pencils in a pot. Ollie puts 6 more pencils in the pot. Now there are 15 pencils altogether. How many pencils were in the pot to start with?



6 VF

4b. True or false? The equation matches the word problem below.

$$12 - s = 3$$

I had 12 stick insects. Some of them escaped. Now I have only 3 stick insects left. How many stick insects escaped?



6 VF

## Word Problems

1a. Use some of the cards to create an algebraic equation.



Draw an image using concrete materials and write a word problem to match the equation created.



6 PS

## Word Problems

1b. Use some of the cards to create an algebraic equation.



Draw an image using concrete materials and write a word problem to match the equation created.



6 PS

2a. Which is the odd one out?

A. I think of a number. I multiply it by 2. My answer is 8.



C.  $n - 1 = 2$

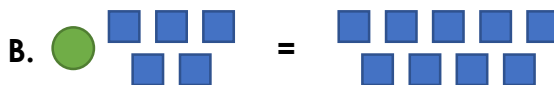


Explain your answer.

6 R

2b. Which is the odd one out?

A. I think of a number. I subtract 4 from it. My answer is 3.



C.  $12 = n + 5$



Explain your answer.

6 R

3a. Chris and Elle are creating word problems based on the equation below.

$$5 + n = 13$$



Chris

I had 13 people at my party. 5 extra people came. How many people were there?

I had 5 sweets. My sister gave me some more. Now I have 13.



Elle

Who is incorrect? Explain your answer.



6 R

3b. Toya and Riley are creating word problems based on the equation below.

$$2n = 24$$



Toya

I think of a number. I multiply it by 2 to make 24.

I think of two numbers. One is 2 and the other is 4.



Riley

Who is incorrect? Explain your answer.



6 R

## Word Problems

## Word Problems

5a. Use the equation below to fill in the gaps in the word problem.

$$6r = 48$$

I think of a number. I multiply it by \_\_\_  
and my answer is \_\_\_.



6 VF

5b. Use the equation below to fill in the gaps in the word problem.

$$2.5 = k \div 4$$


I think of a number. I divide it by \_\_\_ and  
my answer is \_\_\_.



6 VF

6a. In which of the options below does the unknown value equal 7?

A.  $4 = 24 \div h$

B. 

C. Three friends each have the same number of marbles. All together they have 21 marbles. How many do they have each?



6 VF

6b. In which of the options below does the unknown value equal 6?

A.  $23 - j = 15$

B. 

C. Fran has 36 birthday cards. She divides them into a number of equal piles. There are 6 cards in each pile. How many piles has she made?



6 VF

7a. Circle the equation which matches the word problem below.

Sunia thinks of a number. She multiplies it by 5 and then adds 3. Her answer is 2.5. What was her starting number?

$5n + 3 = 2.5$      $2.5 = 3n + 5$      $5n + 3n = 2.5$



6 VF

7b. Circle the equation which matches the word problem below.

Will thinks of a number. He divides it by 4 and then subtracts 2. His answer is 2. What is his starting number?

$2 = 4n - 2$      $2 = n \div 2 - 4$      $2 = n \div 4 - 2$



6 VF

8a. True or false? The equation matches the word problem below.

$$\frac{1}{5}e = 6$$

Farmer Jones has collected his eggs. He divides them equally between 6 boxes. There are 5 eggs in each box. How many eggs did he collect in total?



6 VF

8b. True or false? The equation matches the word problem below.

$$4r + 5 = 15$$

Marley buys 4 rubbers. The shopkeeper gives her a 5p discount. She pays 15p. How much did each rubber cost?



6 VF

## Word Problems

## Word Problems

4a. Use some of the cards to create an algebraic equation.

4b. Use some of the cards to create an algebraic equation.



Draw an image using concrete materials and write a word problem to match the equation created.

Draw an image using concrete materials and write a word problem to match the equation created.



6 PS



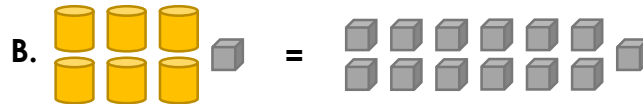
6 PS

5a. Which is the odd one out?

5b. Which is the odd one out?

A. I think of a number. I divide it by 3. I add 8. My answer is 12.

A. I think of a number. I multiply it by 10. I subtract 3. My answer is 22.



C.  $\frac{1}{4}n - 2 = 1$

C.  $5n + 6 = 16$



Explain your answer.

6 R



Explain your answer.

6 R

6a. Eva and Jackson are creating word problems based on the equation below.

6b. Vansh and Lisa are creating word problems based on the equation below.

$$8 = 4r \div 2$$

$$49 = t - 21$$



I think of a number. I multiply it by 4 and divide by 2. My answer is 8.

Eva



There is a group of people. 21 people leave the group. There are 49 people remaining.

Vansh

I think of a number. I divide it by 4 and divide it again by 2. My answer is 8.



Jackson

There are 49 people. 21 people leave and now there are some people left.



Lisa

Who is incorrect? Explain your answer.

Who is incorrect? Explain your answer.



6 R



6 R

## Word Problems

## Word Problems

9a. Use the equation below to fill in the gaps in the word problem.

$$c \div 8 - 9 = -6$$

I think of a number. I \_\_\_\_\_ it by \_\_\_\_\_  
and subtract \_\_\_\_\_. My answer is \_\_\_\_\_.



6 VF

9b. Use the equation below to fill in the gaps in the word problem.

$$0.3n \div 9 = 0.6$$



I think of a number. I \_\_\_\_\_ it by \_\_\_\_\_  
and divide it by \_\_\_\_\_. My answer is \_\_\_\_\_.



6 VF

10a. In which of the options below does the unknown value equal 4?

A.  $17.75 - w = 13\frac{1}{4}$

B.  = 

C. Chloe has 170cm of pipe. She cuts it into some equal pieces. Each piece is 42.5cm long. How many pieces does she have?



6 VF

10b. In which of the options below does the unknown value equal 9?

A.  $0.5y - 3 = 1.5$

B.  = 

C. Tegid did a sponsored walk. When he was three quarters of the way through, he had walked 7.5km. How long was his walk in total?



6 VF

11a. Circle the equation which matches the word problem below.

Huey thinks of a number. He multiplies it by two thirds and then subtracts 1. His answer is 3. What was his starting number?

$$3 - 1 = \frac{2}{3}n$$

$$\frac{2}{3}n - 1 = 3$$

$$1n - \frac{2}{3} = 3$$



6 VF

11b. Circle the equation which matches the word problem below.

Talia thinks of a number. She multiplies it by 0.25 and then subtracts 3. Her answer is -1. What was her starting number?

$$0.25n - 3 = 1$$

$$0.75n - 3 = -1$$

$$-1 = 0.25n - 3$$



6 VF

12a. True or false? The equation matches the word problem below.

$$40 \div p + 2 = 12$$

Cole has 40 books. He splits them into equal piles. He adds 2 more books to one of the piles. That pile now has 12 books. How many piles does he have?



6 VF

12b. True or false? The equation matches the word problem below.

$$2 = 6 - \frac{2}{6}g$$

There are 6 cakes at a party. Every guest eats two sixths of a cake. There are two cakes left over. How many guests were at the party?



6 VF

## Word Problems

7a. Use some of the cards to create an algebraic equation.



Draw an image using concrete materials and write a word problem to match the equation created.



6 PS

## Word Problems

7b. Use some of the cards to create an algebraic equation.



Draw an image using concrete materials and write a word problem to match the equation created.



6 PS

8a. Which is the odd one out?

A. I think of a number. I multiply it by 5. I subtract 11. My answer is 9.



C.  $\frac{1}{4}n + 7 = 8$

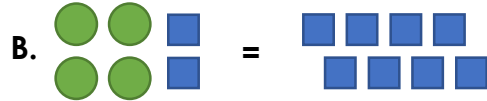


Explain your answer.

6 R

8b. Which is the odd one out?

A. I think of a number. I multiply it by 2. I add 0.5. My answer is 3.5.



C.  $9n - 9.3 = -0.3$



Explain your answer.

6 R

9a. Sophia and Otis are creating word problems based on the equation below.

$$2h - 8j = -8.5$$



Sophia

I think of a number and multiply it by 2. I multiply another number by 8. I subtract the first answer from the second answer to get -8.5.

I think of a number and multiply it by 2. I multiply another number by 8. I subtract the second answer from the first answer to get -8.5.



Otis

Who is incorrect? Explain your answer.



6 R

9b. Tom and Jaya are creating word problems based on the equation below.

$$43.4 = 3b + 4c$$



Tom

I multiply a number by 3. I add 4 to it. My answer is 43.4.

I think of a number and multiply it by 3. I think of another number and multiply it by 4. When I add them together, my answer is 43.4.



Jaya

Who is incorrect? Explain your answer.



6 R