

Monday 8th June

Year 5/6: One Step Equations

Introduction

Match the word problems to the correct representation.

I think of a number
and double it. The
answer is 10.

I think of a number. I
divide it by 4 and the
answer is 4.

I think of a number. I
subtract 12 and the
answer is 6.

$$6 = a - 12$$

$$2c = 10$$

$$b \div 4 = 4$$

Can you work out the missing values?

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Can you work out the missing values? $a = 18$, $b = 16$, $c = 5$

Varied Fluency 1

True or false?

The value of a is the same in both equations.

$$5a = 60$$

$$120 \div 10 = a$$

Varied Fluency 1

True or false?

The value of a is the same in both equations.

$$5a = 60$$

$$120 \div 10 = a$$

True; $a = 12$

Varied Fluency 2

Which concrete representation matches the equation $m + 5$?

A.



B.



C.



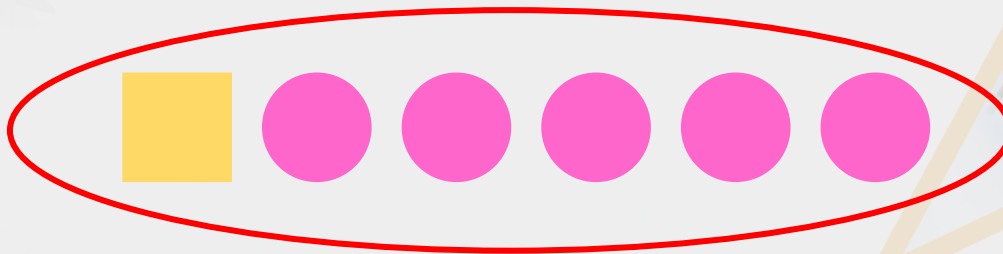
Varied Fluency 2

Which concrete representation matches the equation $m + 5$?

A.



B.



C.



B

Varied Fluency 3

Compare the value of a in each equation using $<$, $>$ or $=$.

$$2a = 30$$

$$a - 11 = 10$$

$$4 + a = 20$$

Varied Fluency 3

Compare the value of a in each equation using $<$, $>$ or $=$.

$$2a = 30$$

$<$

$$a - 11 = 10$$

$>$

$$4 + a = 20$$

Varied Fluency 4

What numbers would balance these equations?

a. $t \times 6 = 36$

b. $12 - a = 3$

c. $11 + n = 19$

Varied Fluency 4

What numbers would balance these equations?

a. $t \times 6 = 36$

b. $12 - a = 3$

c. $11 + n = 19$

$t = 6, a = 9, n = 8$

Reasoning 1

Saif is solving the equation $f + 14 = 29$.

Saif says:



$f = 43$ because
 $29 + 14 = 43$.

Is he correct? Explain your answer.

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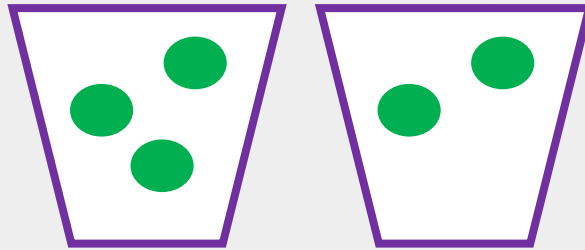
Is he correct? Explain your answer.

Saif is incorrect because you need to balance the equation by taking away 14 from 29, rather than adding it.

Reasoning 2

Dana has created a concrete representation for the following equation:

$$2b = 8$$

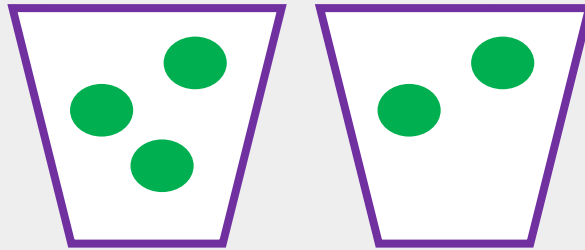


Is Dana correct? Convince me!

Reasoning 2

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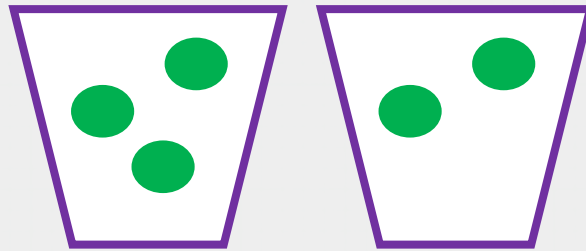
Is Dana correct? Convince me!

Dana is incorrect because...

Reasoning 2

Dana has created a concrete representation for the following equation:

$$2b = 8$$



Is Dana correct? Convince me!

Dana is incorrect because $b = 4$. Both cups should therefore contain 4 counters.

Problem Solving 1

Create three different equations that will balance the scale when $x = 5$.



Problem Solving 1

Create three different equations that will balance the scale when $x = 5$.



Various possible answers, for example:

$25x + 2 + 7$, $50 + 7$, $60 - 3$.

Year 5 and Year 6 Developing

2a. Which concrete representation matches the equation $n + 1$?

- A. 
- B. 
- C. 



6 VF

2b. Which concrete representation matches the equation $c + c$?

- A. 
- B. 
- C. 



6 VF

3a. Compare the value of b in each equation using $<$, $>$ or $=$.

$$2b = 10 \quad \square \quad b + 9 = 11 \quad \square \quad 26 - b = 19$$



6 VF

3b. Compare the value of a in each equation using $<$, $>$ or $=$.

$$a \times a = 36 \quad \square \quad a - 10 = 9 \quad \square \quad 4 \times a = 16$$



6 VF

4a. What numbers would balance these equations?

- a. $p + 1 = 30$
- b. $d - 4 = 14$
- c. $a + a = 32$

4b. What numbers would balance these equations?

- a. $b - 11 = 0$
- b. $c + c + c = 12$
- c. $2 + a = 7$

2a. Greta has created a concrete representation for the following equation:

$$2n = 10$$



Is Greta correct? Convince me!



6 R

2b. Brayson has created a concrete representation for the following equation:

$$12 = 2n$$



Is Brayson correct? Convince me!



6 R

3a. Create three different equations that will balance the scale when $v = 6$.



3b. Create three different equations that will balance the scale when $n = 4$.



Year 6 Expected




6a. Which concrete representation matches the equation $2 + c$?

- A. 
- B. 
- C. 



6 VF

6b. Which concrete representation matches the equation $n + 4$?

- A. 
- B. 
- C. 



6 VF

7a. Compare the value of a in each equation using $<$, $>$ or $=$.

$$6a = 30 \quad \square \quad a - 4 = 10 \quad \square \quad 3 + a = 17$$



6 VF

7b. Compare the value of b in each equation using $<$, $>$ or $=$.

$$5b = 6 \quad \square \quad b - 5 = 9 \quad \square \quad 4 + b = 18$$



6 VF

8a. What numbers would balance these equations?

- a. $c \times 5 = 35$
- b. $42 - a = 24.5$
- c. $9b = 36$

8b. What numbers would balance these equations?

- a. $m \times 7 = 56$
- b. $3n = 120$
- c. $6 + d = 28.5$

5a. Aurora has created a concrete representation for the following equation:

$$3b = 15$$



Is Aurora correct? Convince me!



6 R

5b. Jack has created a concrete representation for the following equation:

$$3n = 12$$



Is Jack correct? Convince me!



6 R

6a. Create three different equations that will balance the scale when $r = 8$.



6b. Create three different equations that will balance the scale when $n = 0.5$.



Year 6 Greater Depth

10a. Which concrete representation matches the equation $2m + 0.5$?

- A. 
- B. 
- C. 



6 VF

10b. Which concrete representation matches the equation $n \div 1$?

- A. 
- B. 
- C. 



6 VF

11a. Compare the value of c in each equation using $<$, $>$ or $=$.

$$c^2 = 169 \quad \square \quad c - 0.5 = 2 \quad \square \quad c - 10 = -7.5$$



6 VF

11b. Compare the value of d in each equation using $<$, $>$ or $=$.

$$d \times 8 = 72 \quad \square \quad -5 + d = 2 \quad \square \quad d \div 2 = 3.5$$



6 VF

12a. What numbers would balance these equations?

- a. $c \div 8 = 6.5$
- b. $b = 81 \div b$
- c. $7n = 1.4$

12b. What numbers would balance these equations?

- a. $4n = 22$
- b. $r - 1.5 = -1$
- c. $c = 49 \div c$

8a. Amina has created a concrete representation for the following equation:

$$b + 3 = 12$$



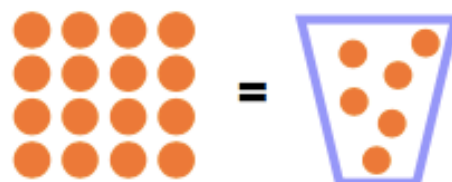
Is Amina correct? Convince me!



6 R

8b. Brynn has created a concrete representation for the following equation:

$$16 = x + 10$$



Is Brynn correct? Convince me!



6 R

9a. Create three different equations that will balance the scale when $d = 7$.



9b. Create three different equations that will balance the scale when $c = -5$.

