TEACH TO ONE MATH

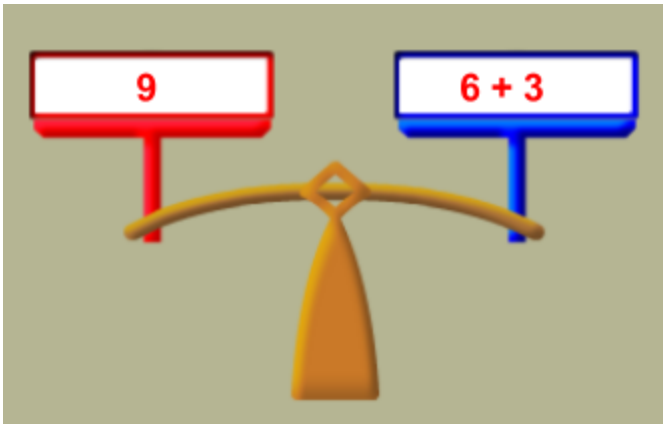
a New Classrooms® solution

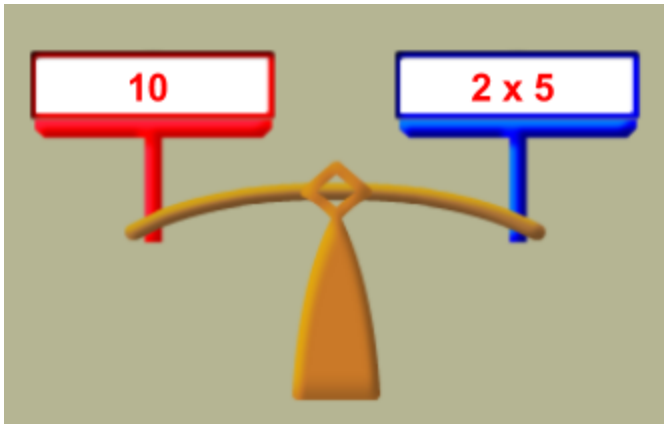
Name:_____

Date:_____

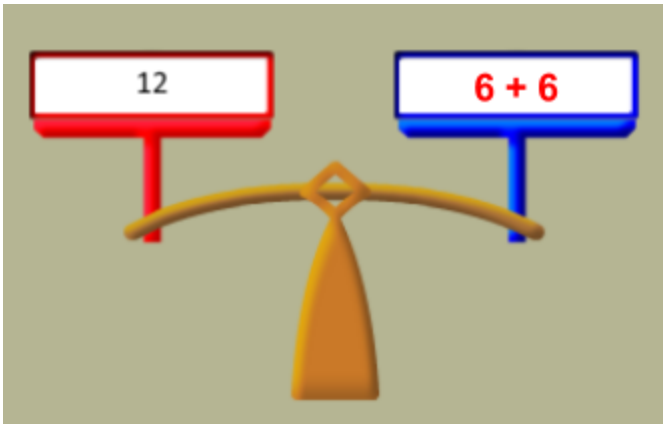
Introduction to Equations Homework

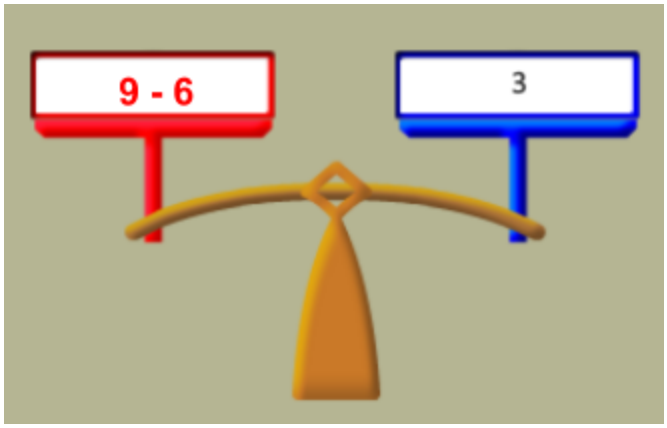
1. Show 2 different equal balances below. **Possible student responses in red**





Write a number sentence in the blank space that will make these balances even. **Possible student responses in red**

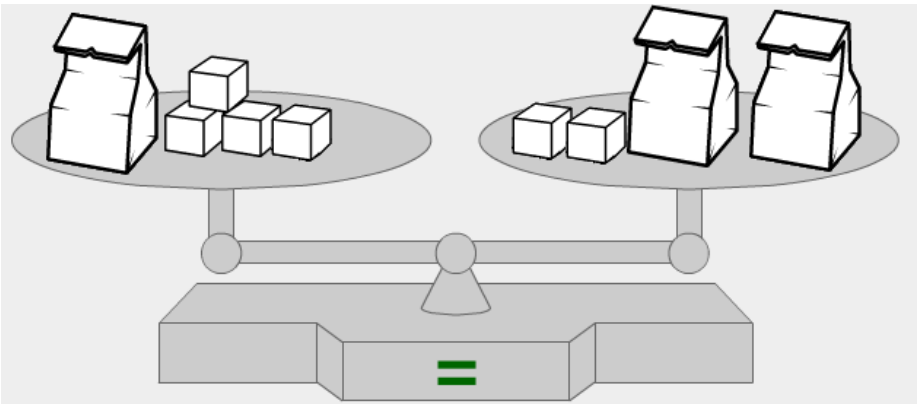




2. Chose the <u>same number</u> to go in each square then make both sides of the = balanced?

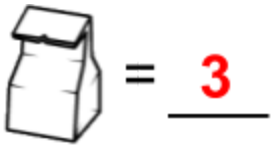
$9 = \boxed{4} + 5$	$11 - \boxed{4} = 7$	$6 \times \boxed{4} = 24$

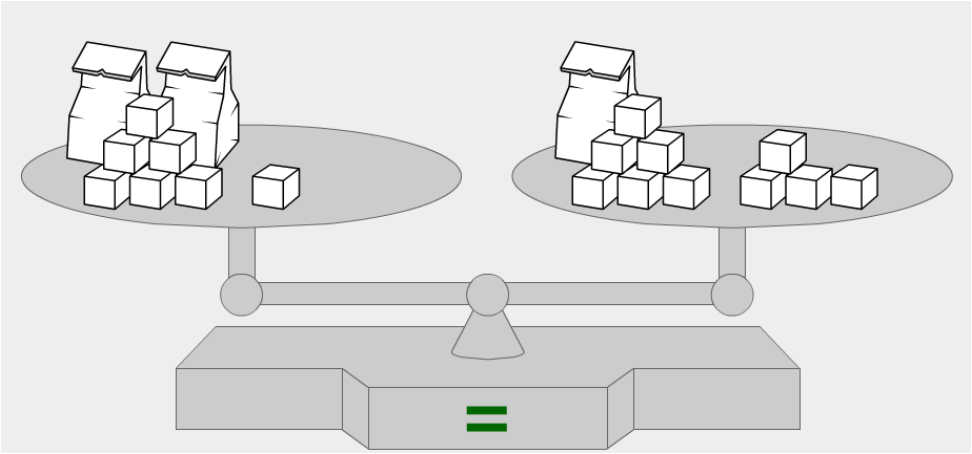
3. Explain the steps you followed to find out how many blocks are in one bag.



Possible Student Responses:
Step 1: Remove 1 bag from both sides of the balance
Step 2: Remove 2 blocks from both sides of the balance
Step 3: Each bag has 2 blocks in it.

4. Chose how many blocks you want each bag to be worth. Draw bags and blocks so that the scale is balanced.





5. Find the secret number in each of the examples.

$26 = 8 + n$
n = 18

$n - 7 = 13$
n = 20

$10 \times n = 40$
n = 4

$n \div 2 = 5$
n = 10

$3 + n = 8$
n = 5

$n - 6 = 5$
n = 11

6. Pick an example from above describe the steps you took to find the secret number.

Possible Student Responses:

$n \div 2 = 5$

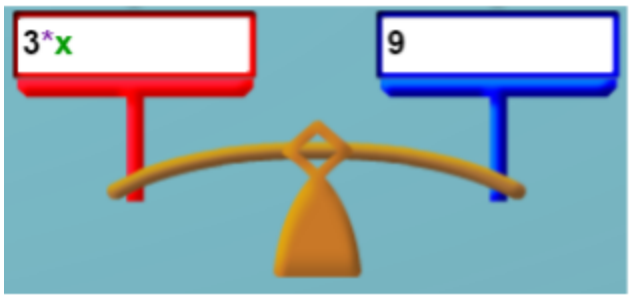
Step 1: Undo ÷ **2** with **×2**
Step 2: **×2** to the 5 on the other side of the = sign
Step 3: **n = 10**

7. Draw an undoer for the following machine. Try some values to prove your undoer works.

Input	Output
10	6
8	4
25	21

Input	Output
6	10
4	8
21	25

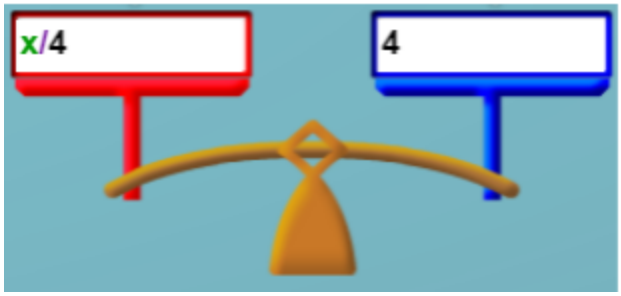
8. Explain how you find the secret number that keeps each balance even.



Step 1: divide both sides by **3**
3*x/3 = 9/3

Step 2: ***3** and **/3** cancel out and **9/3 = 3**
x = 3

Step 3: **x** is equal to **3**

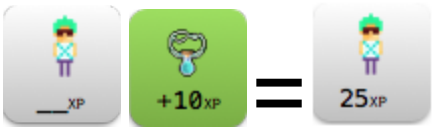


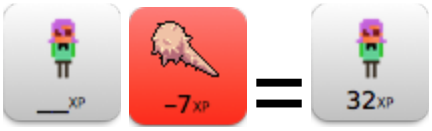
Step 1: multiply both sides by **4**
x/4*4 = 4*4

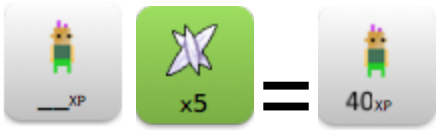
Step 2: **/4** and ***4** cancel out and **4*4 = 16**
x = 16

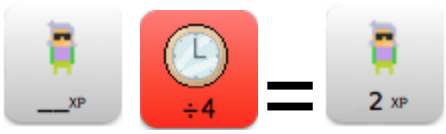
Step 3: **x** is equal to **16**

9. Find the missing number in the following adventures.









10. Pick your favorite adventure that you created. Redraw it and explain how to solve it here?