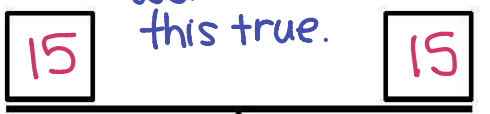
Special Case Equations

Name _____ Date _____

Each of these scales is balanced. Choose a number to fill into the boxes in each problem that will keep the scale balanced. You may only choose one number per problem and must plug the same number into all of the boxes

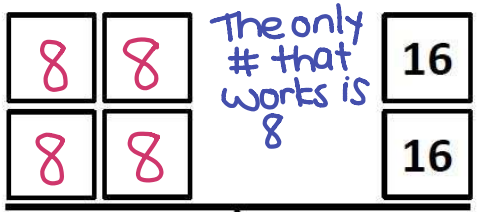
1.



Any # will work to make this true.

Infinite solutions

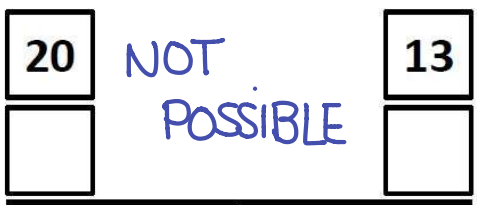
2.



The only # that works is 8

ONE Solution

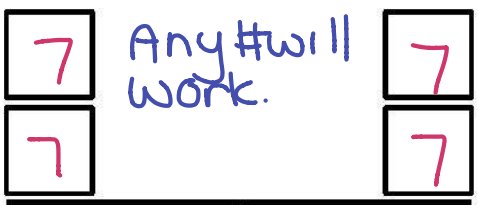
3.



NOT POSSIBLE

NO SOLUTION

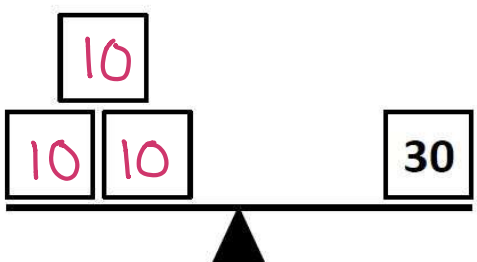
4.



Any # will work.

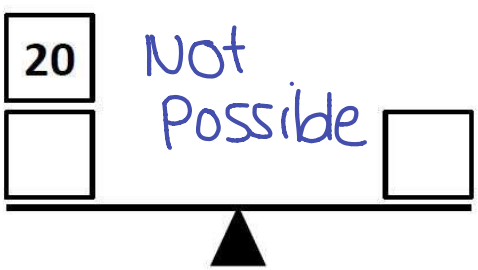
Infinite

5.

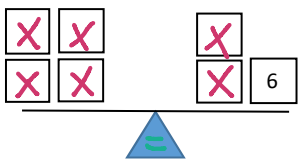
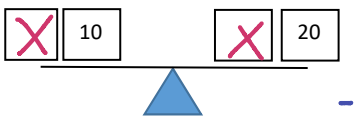
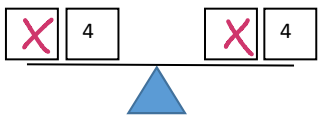
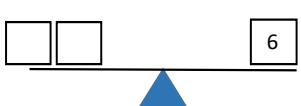
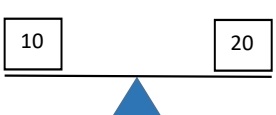


The # that works is 10

6.



Not Possible

One Solution	**No Solution**	**Infinite Solutions**
• Only one number works	• No possible number that can work	• All numbers can work
		
Equation	**Equation**	**Equation**
$4x = 2x + 6$ $-2x \quad -2x$ $\frac{2x}{2} = \frac{6}{2}$ $x = 3$	$x + 10 = x + 20$ $-x \quad -x$ $10 \neq 20$ NO SOLUTION	$x + 4 = x + 4$ $-x \quad -x$ $4 = 4 \leftarrow$ Infinite Sol.
		
$x = 3$ only possible answer.	* all variables were eliminated & equation isn't balanced.	

$$x+3=5$$
$$-3 \quad -3$$
$$x=2$$

$$5x+5=5x+3$$
$$-5x \quad -5x$$
$$5=3$$
NO SOL.

$$7x+3=7x+3$$
$$-7x \quad -7x$$
$$3=3 \quad \text{Inf.}$$

$$4x+2=2x+4$$
$$-2x \quad -2x$$
$$2x+2=4$$

$$x + x + 3 = 2(x + 3)$$

$$2x + 3 = 2x + 6$$

NO SOL.