

## Warm-up

1.  $7 \times 5 = 35$
2.  $15 \times 8 = 120$
3.  $9 \times 6 = 54$
4.  $14 \times 7 = 98$
5.  $8 \times 8 = 64$
6.  $12 \times 5 = 60$
7.  $10 \times 4 = 40$
8.  $20 \times 9 = 180$
9.  $6 \times 9 = 54$
10.  $13 \times 6 = 78$

Jan 27

What does equality mean????

EQUAL  
=  
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$$7 + 1 = 8$$
$$8 = 8$$

## Equality

- The idea that two quantities have the same value

> i.e.,  $6 + 4 = 10$   
 $10 = 10$

So.....

$$\underbrace{5 = 5 + 3}$$

What if I add 3 to one side?

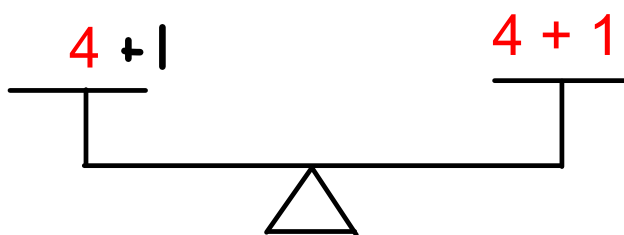
$$\begin{aligned} 5 &= 5 + 3 \\ 5 + 3 &= 5 + 3 \\ 8 &= 8 \end{aligned}$$

$$6 = 6$$

What if I take away 1 from one side?

$$\begin{array}{l} 6 - 1 = 6 - 1 \\ 5 = 5 \end{array}$$

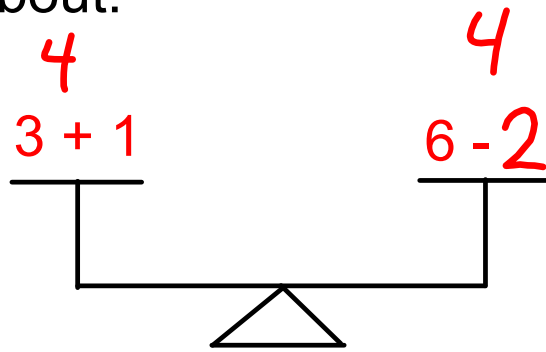
Let's use a balance scale



Is this balanced?

How can I make it balanced?

what about:



Balance these:

$$1) \quad 12 - 5 = 11 - \underline{4} \quad \checkmark$$

$$7 = 7$$

$$2) \quad 13 - 5 = 1 + \underline{7} \quad \checkmark$$

$$8 = 8$$

$$3) \quad \underline{9} + 7 = 2 + 14 \quad \checkmark$$

$$16 = 16$$

$$4) \quad 5 + \underline{7} = 15 - 3 \quad \checkmark$$

$$12 = 12$$

$$5) \quad \underline{9} - 1 = 13 - 5$$

$$8 = 8$$

$$\checkmark 6) \quad 14 - 1 = \underline{16} - 3$$

$$13 = 13$$

$$7) \quad \frac{5}{9} + 4 = 12 - 3$$

$$9 = 9$$

$$8) \quad 15 - 1 = 4 + \frac{10}{14} = 14$$

$$9) \quad 12 - 2 = \frac{7}{10} + 3$$

$$10 = 10$$

the  
same

$$10) \quad 11 - \frac{6}{5} = 2 + 3$$

$$5 = 5$$

$$11) \quad 6 + 10 = 8 + \frac{8}{16} = 16$$

$$12) \quad 11 - \frac{6}{5} = 1 + 4$$

$$5 = 5$$

## Preservation of Equality

Preservation of equality refers to the principle that if you perform the same operation on both sides of an equation, the equality remains true.

### How to preserve equality:

- Always perform the same operation on both sides of the equation.

# Homework

## Worksheet #1 & #2

Exactly what we were doing in class