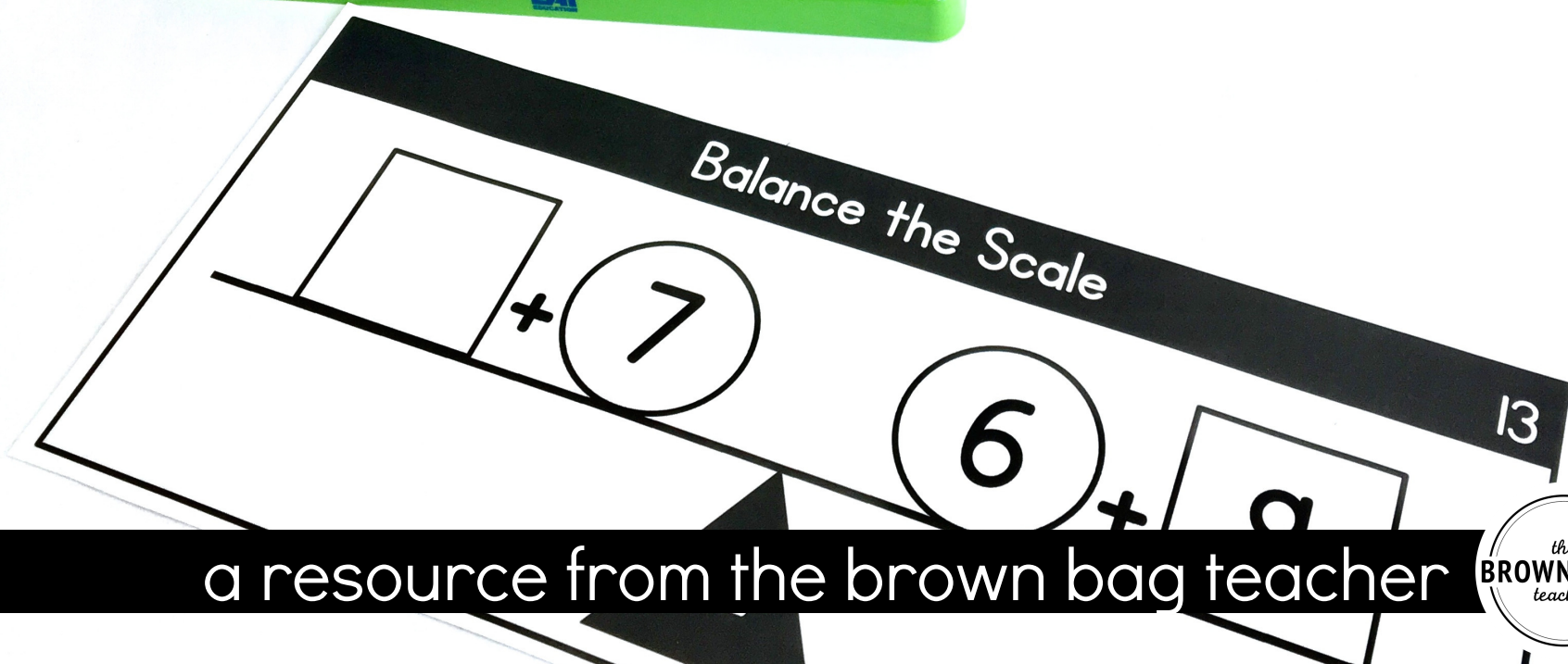
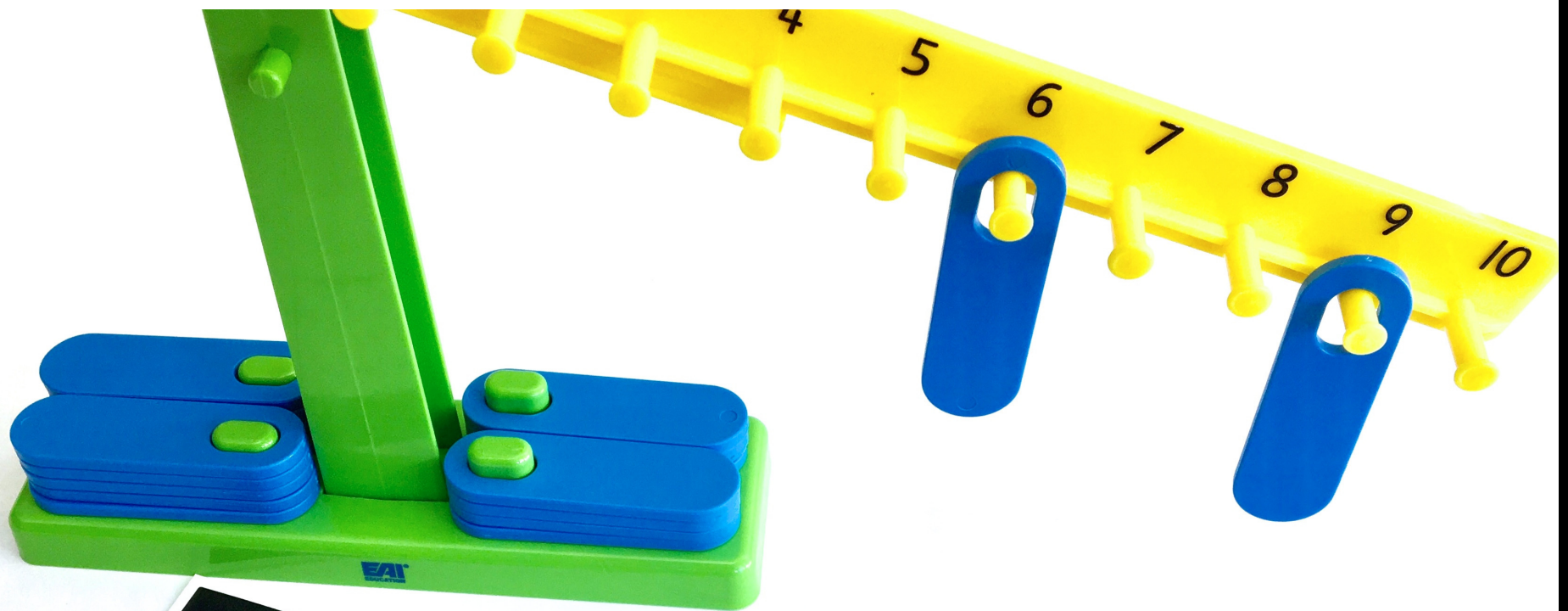


BALANCING EQUATIONS

30 prompt cards & recording logs

talking
numbers



a resource from the brown bag teacher



Notes to the Teacher

Number conversations can be built into your daily schedule as short, daily exercises aimed at building number sense. Number sense is the ability to understand numbers and quantities, to use numbers flexibly, and to perform calculations mentally. According to research, students in the United States lack number sense. Traditionally, students have relied on rote algorithms to complete math problems, without really understanding what they are doing. Students who have strong number sense can solve problems in more than one way and can check that their answers make sense.

Typically I follow this routine -

(1) Present the class with a problem. (Students are seated in a common area with no math tools. These conversations are mental exercises.)

(2) Give think time. (When a student raises their hand, it tells other students they were not fast or good enough in their thinking. To account for this, students give me a sly thumbs-up on their chest to signal that they have thinking they want to share. Then, they put up multiple fingers (on the same hand) to indicate they have multiple ways to answer/solve the problem.)

(3) Call on a student - "_____, what are you thinking?" Have the student explain their thinking and then give their answer. My focus is always on the process not the answer.

(4) Offer the strategy to the class. Student will elaborate (if correct) or ask questions (if misguided). If students aren't sure they understand a friend, they will ask "I'm a little confused. Could you tell me in a different way?" If students agree with the student sharing they will do sign-language for 'me too' (thumb near chest and pinky pointing at friend). This builds the student's confidence and offers the student sharing positive affirmations.

(5) Invite other students to share their strategies.

If students have never been expected to explain their mathematical thinking, students may be very resistant to share their own strategies. So, how do I encourage students to share their own thinking/strategies?

- Model, Model, Model - For the first few days, I do a lot of modeling. After this, I completely release the conversation to the students.
- Sentence Stems - "In my head I saw..." "My first step was..." "I decided to try..." "I needed to..."
- Force It - Awkward silence is your friend. Sometimes I will wait (for extended periods of time) for students to share their thinking. Even if a friend is STRUGGLING with a problem or sharing their thinking, I do not come to the rescue. Growth comes when friends are able to sort out their own thinking and my 1st grade friends are able to do this.

Other Notes:

- Conversations typically last 7-9 ish minutes. Any longer than that and I find I lose my 1st graders. It all becomes too abstract for their stage of development.
- As students are sharing, I record student thinking with their number next to their idea. I do this because it builds students confidence and gives an easy reference in later lessons. "Do you remember Kate's strategy for adding? She turned the 8 into a 10 and then..." Naming math strategies after students is an easy way to make math real-life and meaningful for students.
- If we've had an exceptionally amazing conversation, I love to take a picture of the student thinking. Then, I will tweet out the conversation and share it with families via Remind Texting. Families love seeing this high-level mathematical thinking!
- For easy storage, I keep each type of prompt on a binder ring. I hang each set of prompts on a Command Hook near my document camera.

Printing Tips

- Print any page at 85% to fit it inside of a composition notebook.
- Slip any of the recording pages into a sheet protector and pair with the dry-erase marker for an easy and paper-saving way to show math thinking.
- To Print Multiple Sheets to a Page go to Print → Layout → Pages Per Sheet This feature allows you to make any of the 100s charts smaller without reducing a certain percentage. They will automatically be at 50%.

Number Balances

The Purpose

- flexibly thinking about a number
- identify missing parts
- develop a strong understanding of equality (=)

Teaching Sequence - 2 number scales a day, 30 total prompts

- Week 1: Commutative Property within 10, Sums of 10
- Week 2: Sums of 10, Making 10 to Add within 20
- Week 3: Missing Addends with Sums within 10, Missing Addends with Sums within 20

Student Prompts

- What is the missing number? How do you know?
- When you _____, what did it sound like?
- What do both sides equal?
- What would the equation say?
- If I added another shape to one side, how would the scale change?

Lana
I know $6+6=12$
(doubles)
So 1 more is 13.
 $6+6=12$
 $12+1=13$
So $10+3=13$
So, $0=3$

Josh
 $6+7$
 $4+3$
 $10+3=13$
I already have 10, so we only need 3 more.
 $0=3$

Kate
 $6+7=13$
 $10+3=13$
 $0=3$

TALKING ABOUT MATH

In my head I saw...

At first I tried...

I noticed...

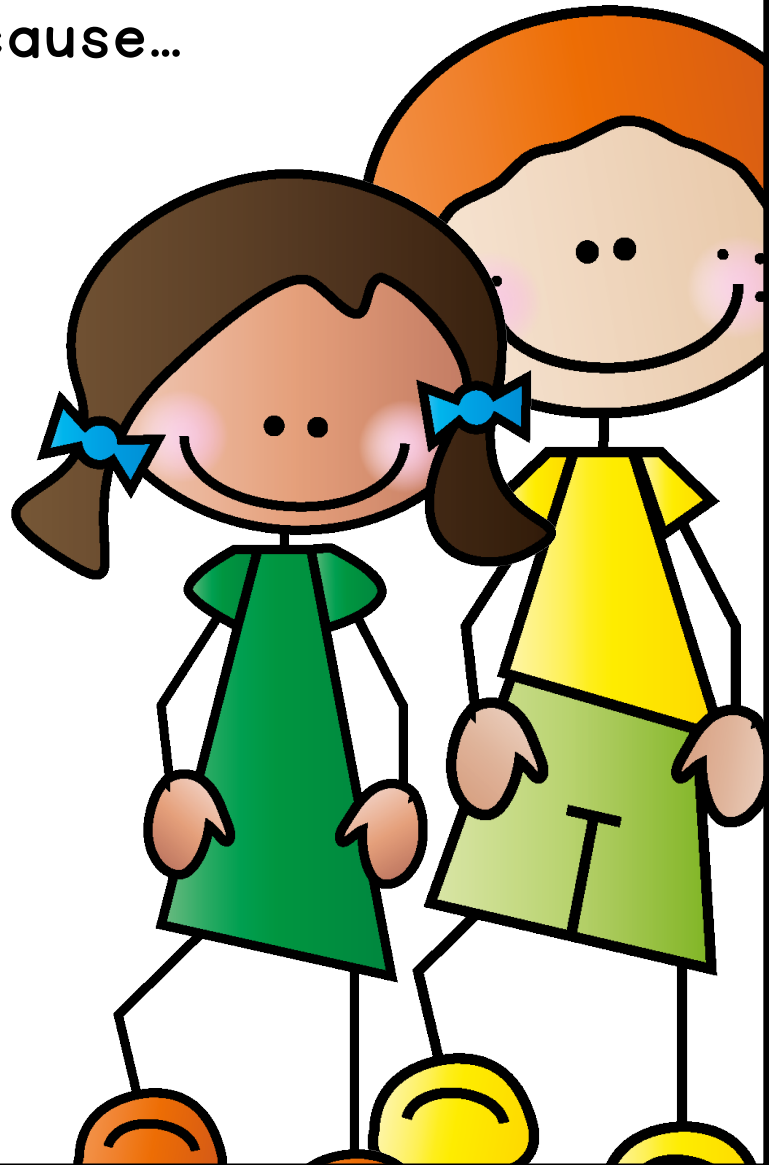
I agree/disagree because...

It makes sense
to me because...

How do you know
you're right?

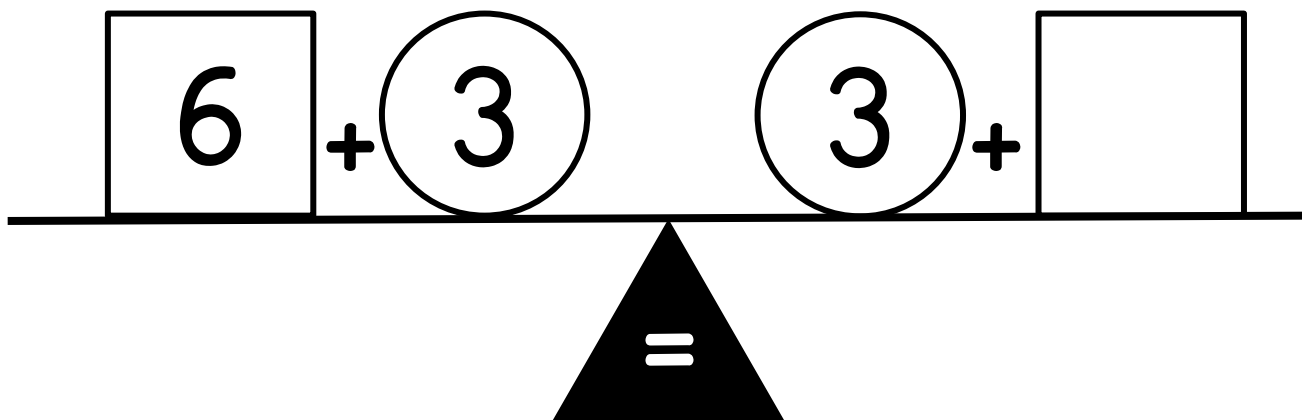
Will you please
explain it in a
different way?

I can use _____
to help me solve the
problem because...



Balance the Scale

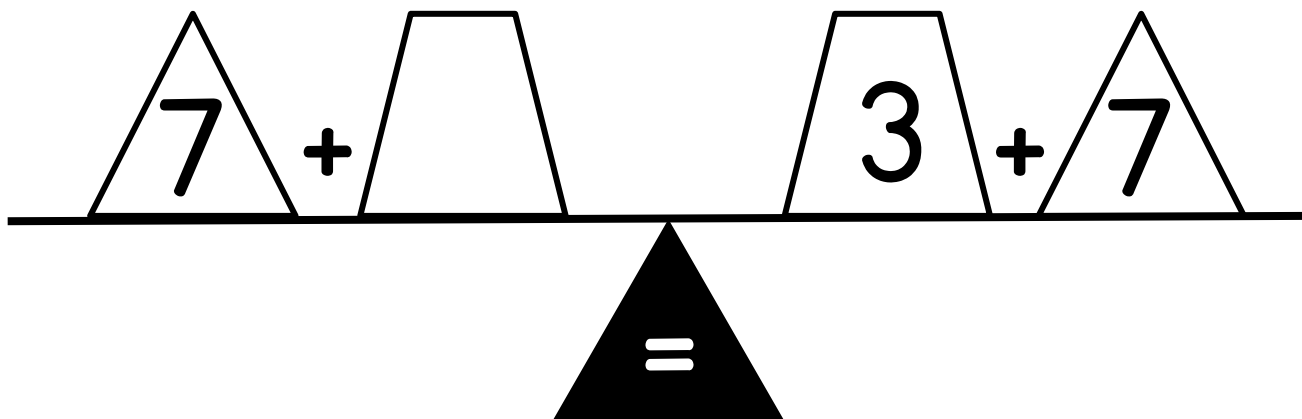
1



commuative property

Balance the Scale

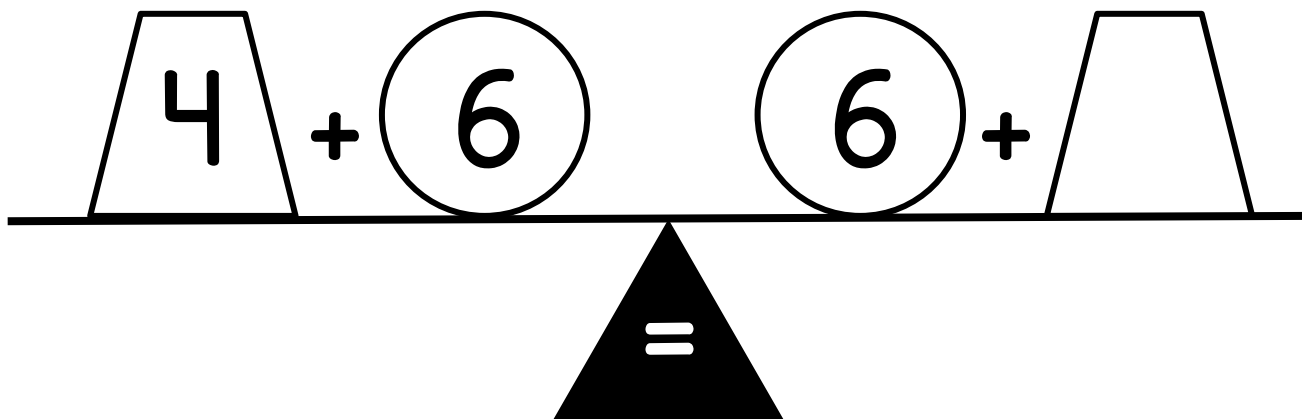
2



commuative property

Balance the Scale

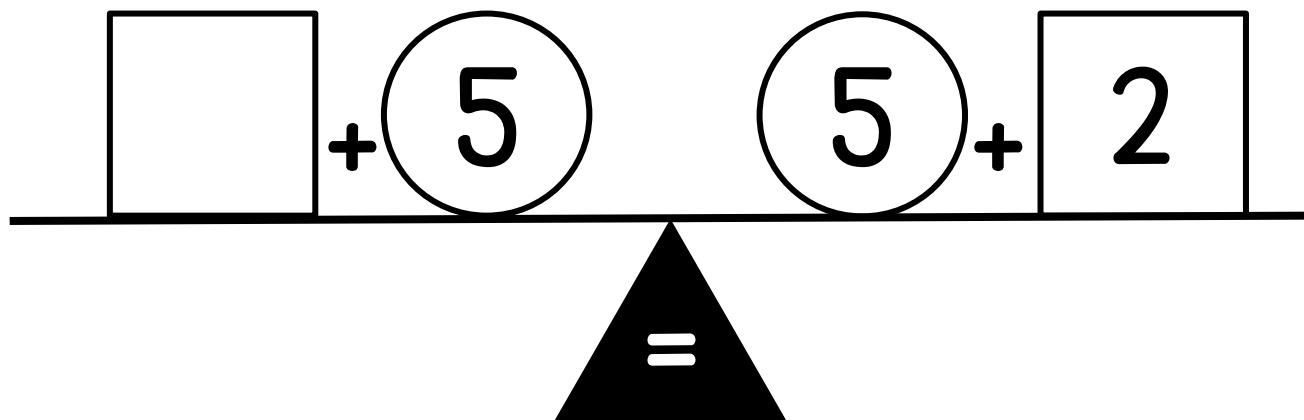
3



commuative property

Balance the Scale

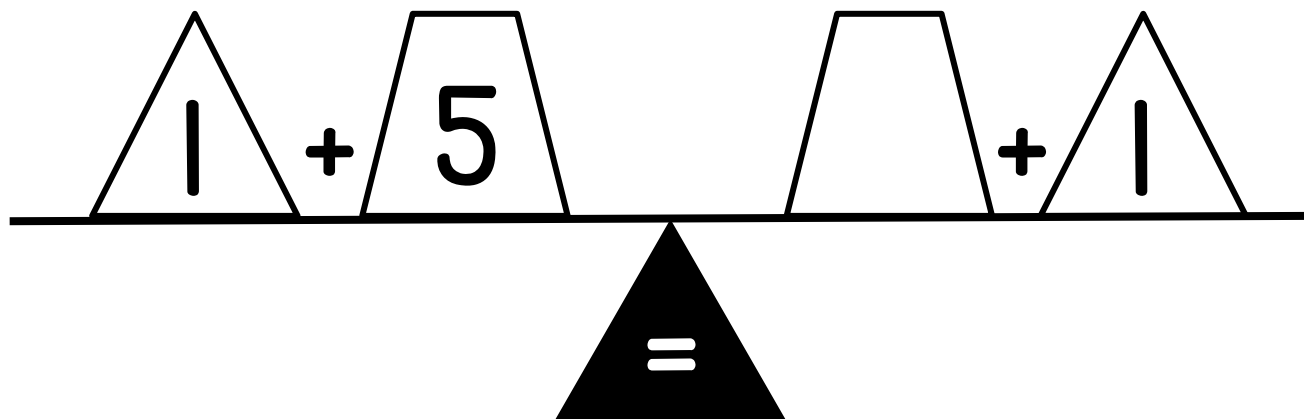
4



commuative property

Balance the Scale

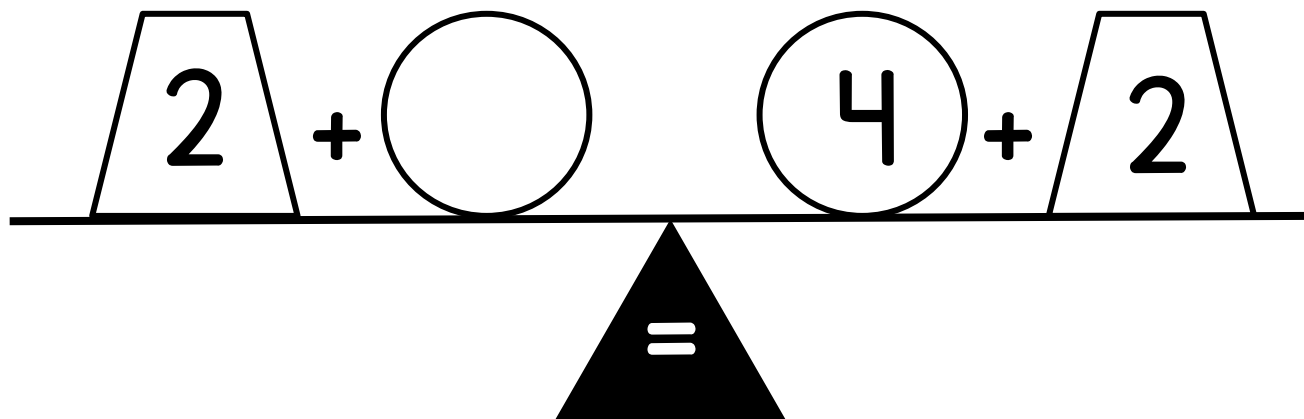
5



commuative property

Balance the Scale

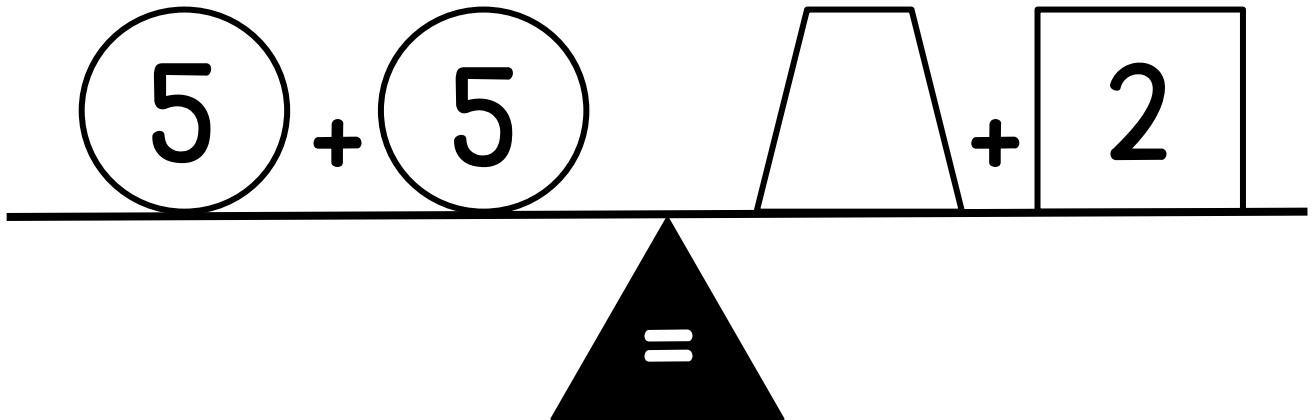
6



commuative property

Balance the Scale

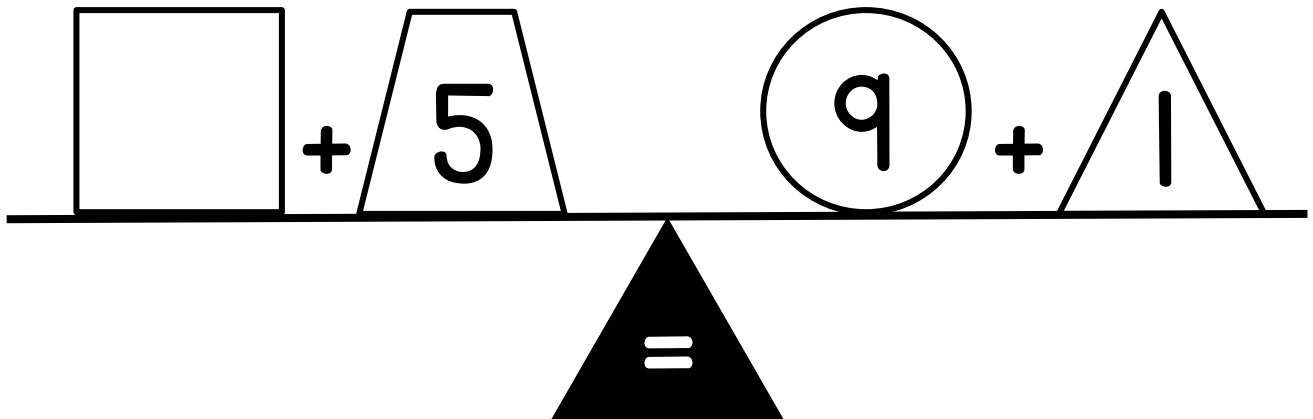
7



fluency to ten

Balance the Scale

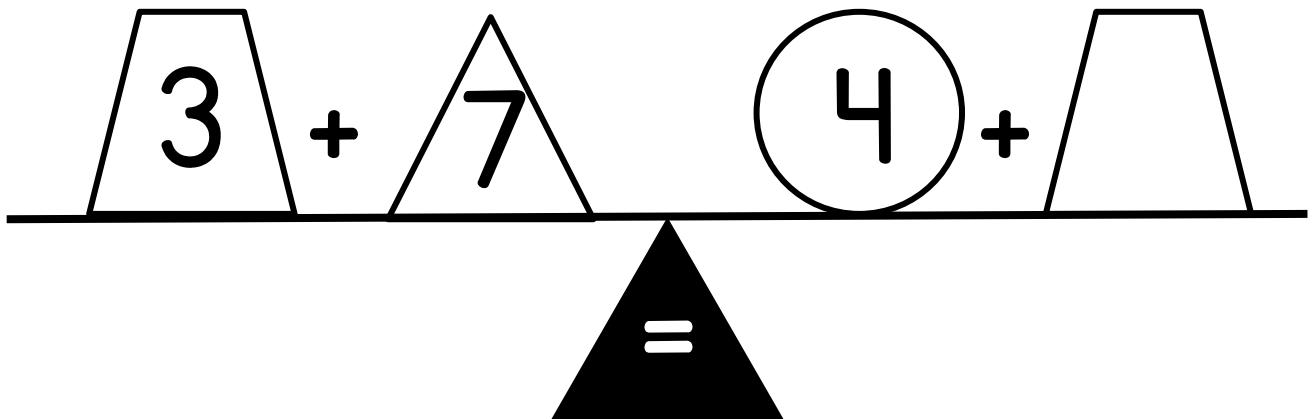
8



fluency to ten

Balance the Scale

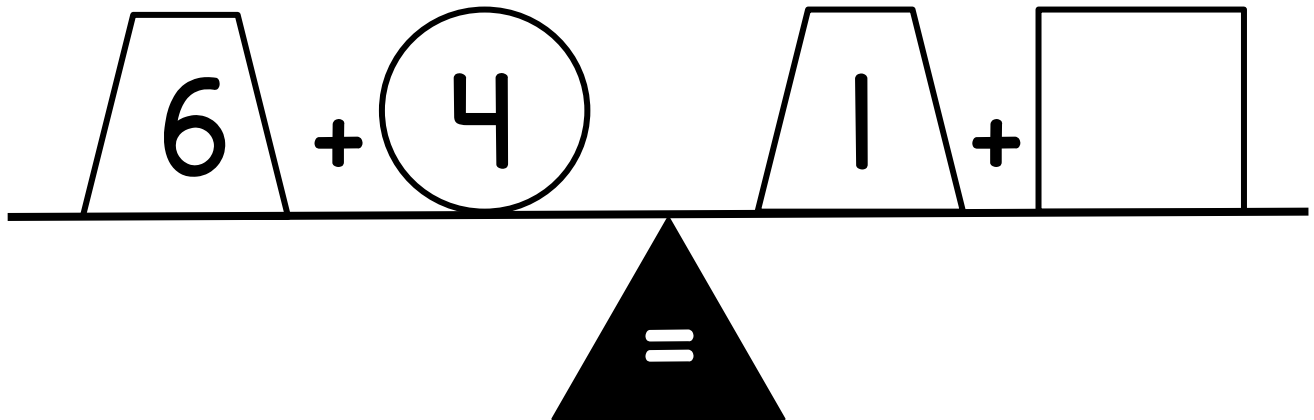
9



fluency to ten

Balance the Scale

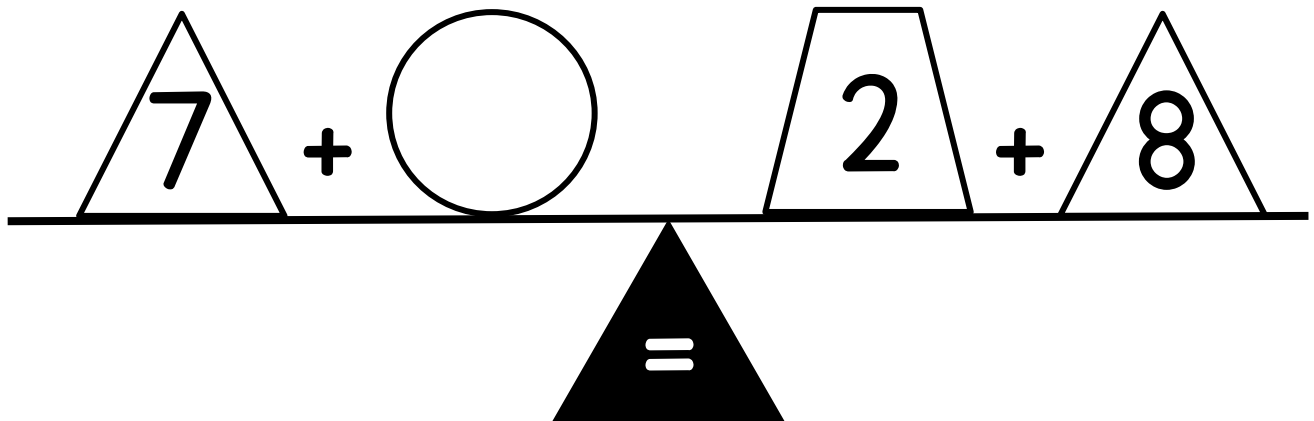
10



fluency to ten

Balance the Scale

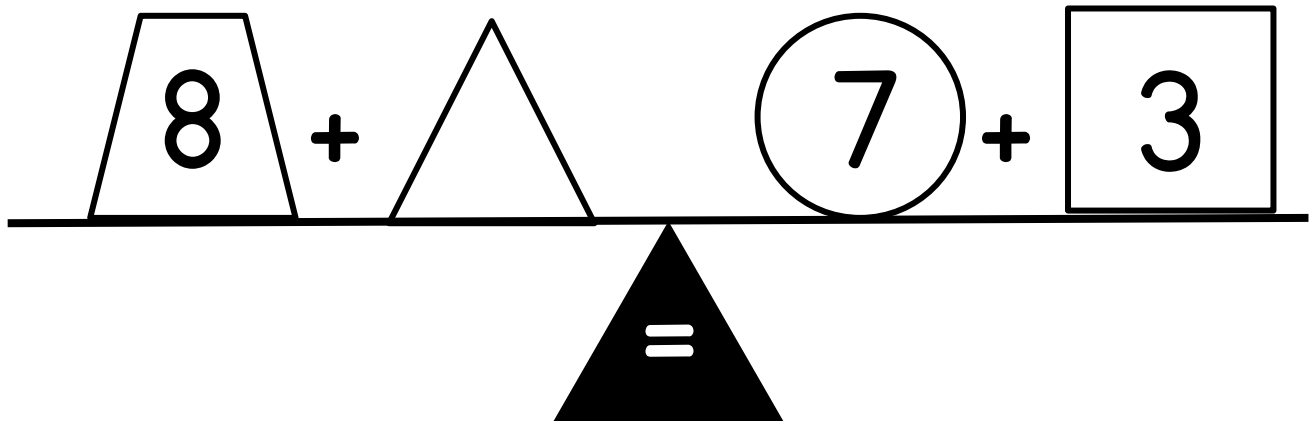
11



fluency to ten

Balance the Scale

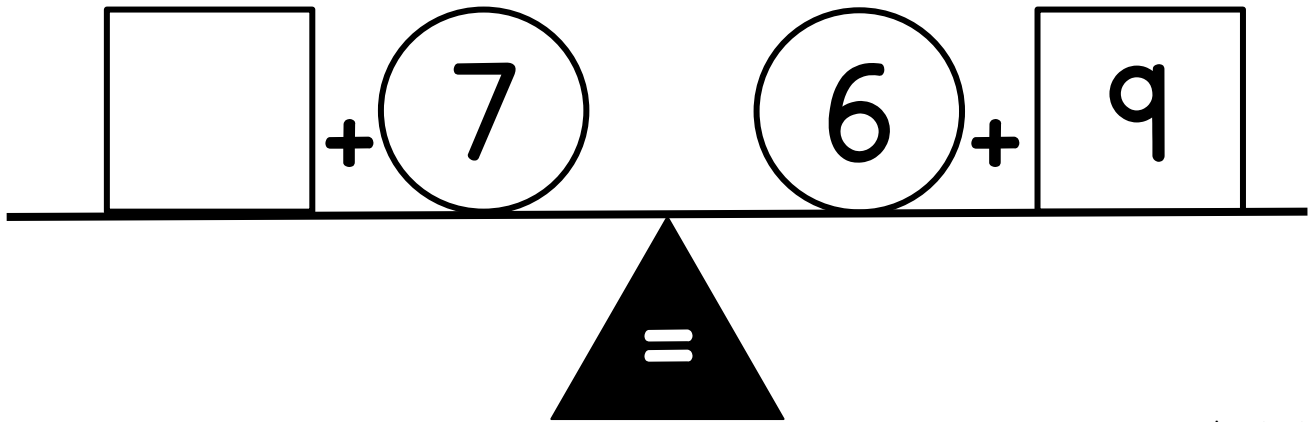
12



fluency to ten

Balance the Scale

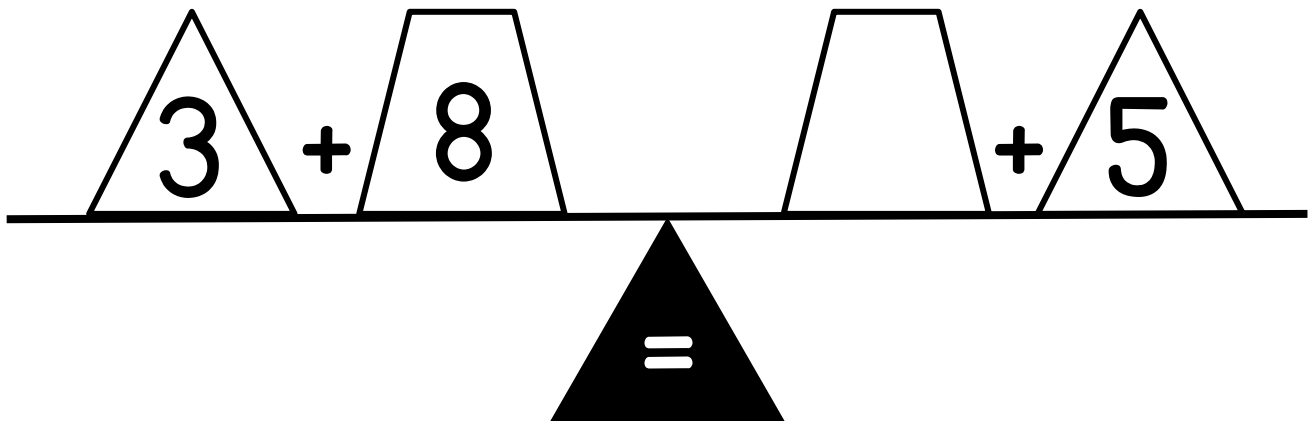
13



making ten to add

Balance the Scale

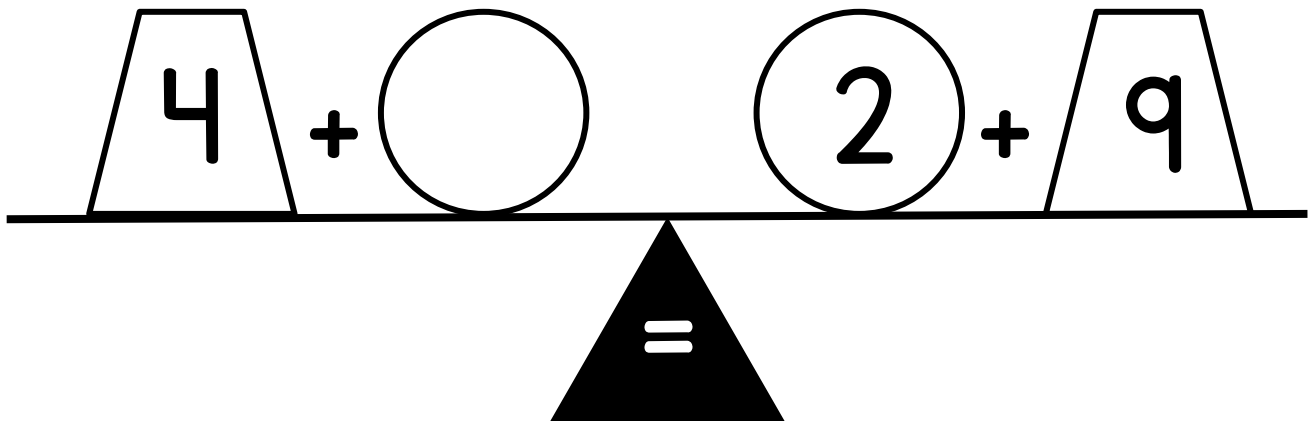
14



making ten to add

Balance the Scale

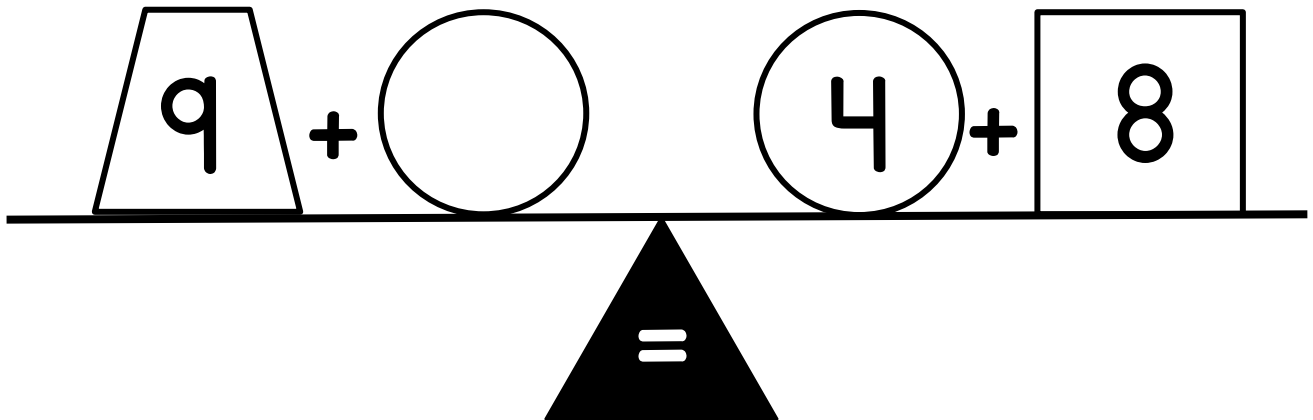
15



making ten to add

Balance the Scale

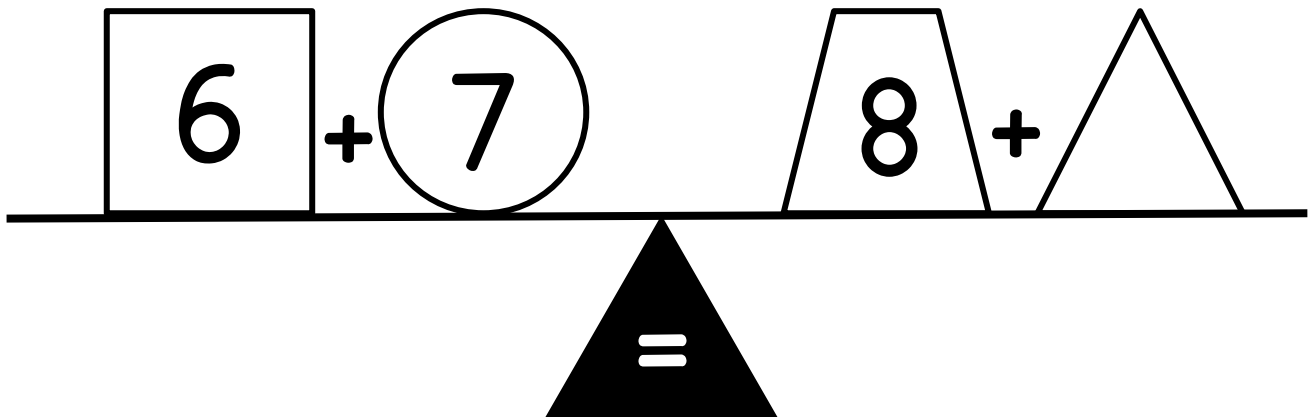
16



making ten to add

Balance the Scale

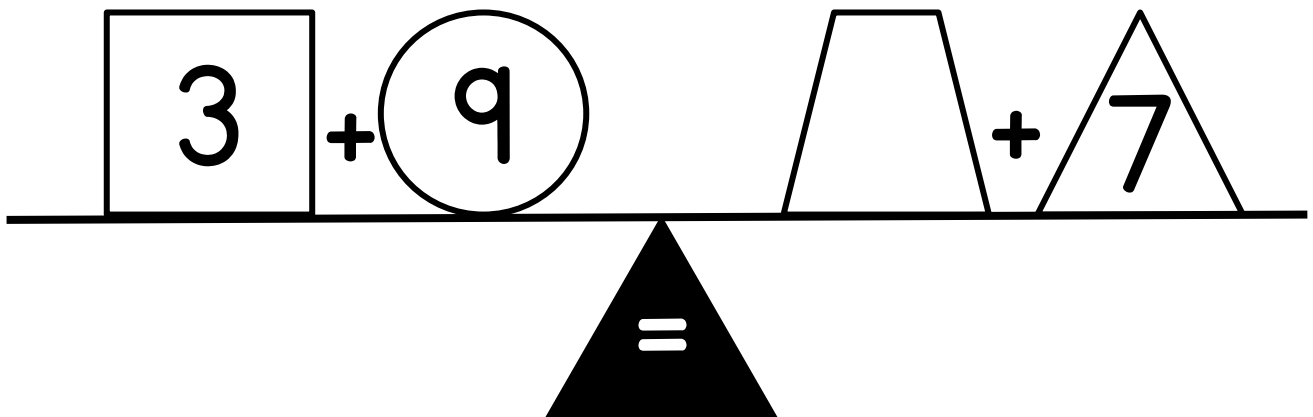
17



making ten to add

Balance the Scale

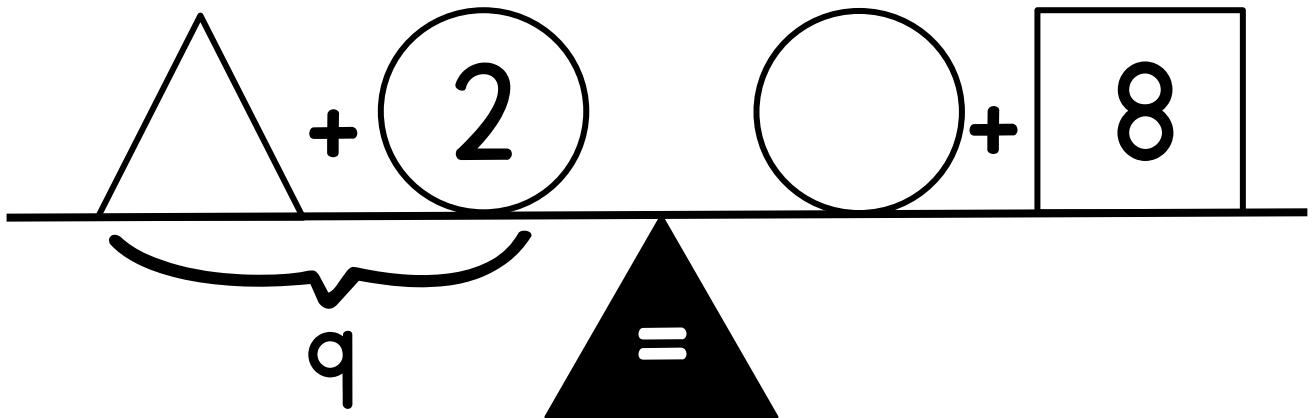
18



making ten to add

Balance the Scale

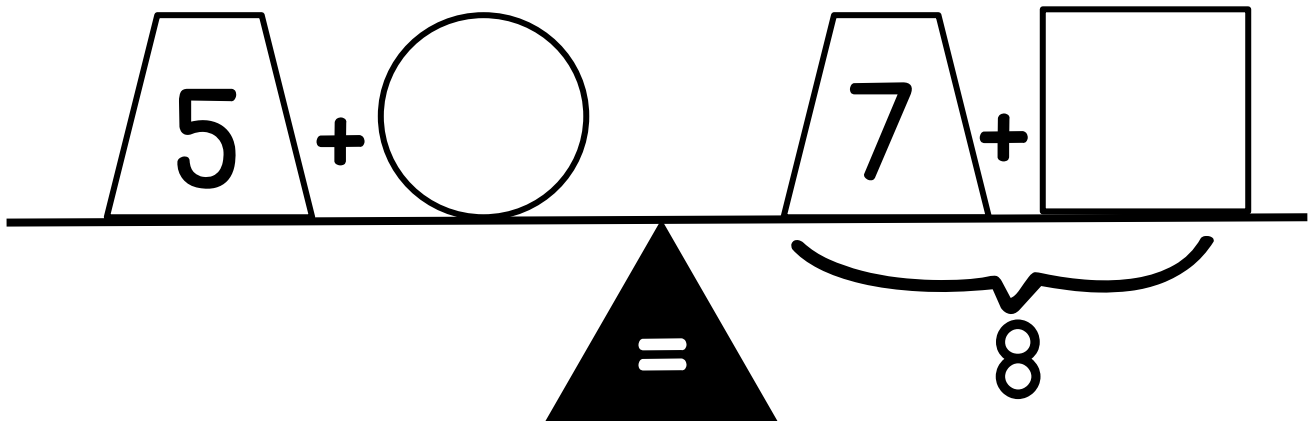
19



missing part

Balance the Scale

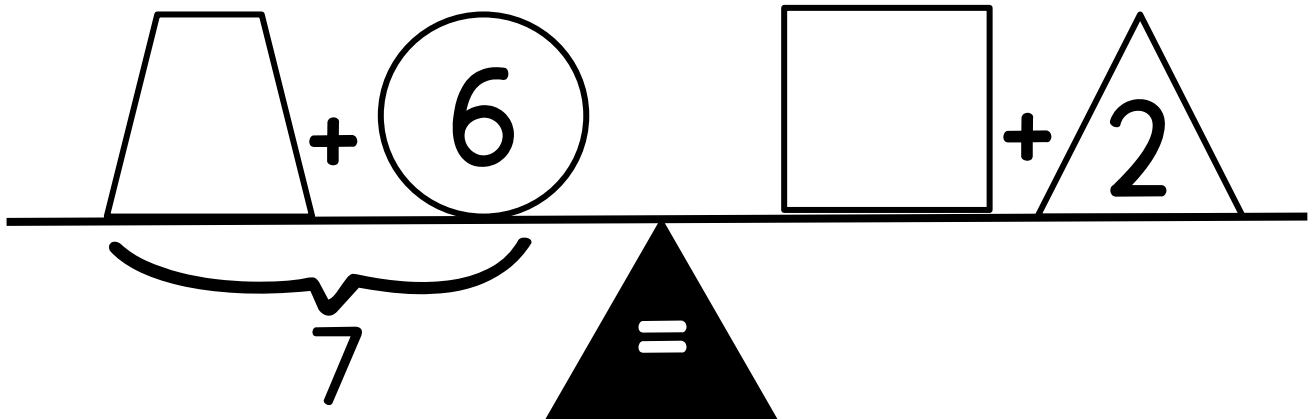
20



missing part

Balance the Scale

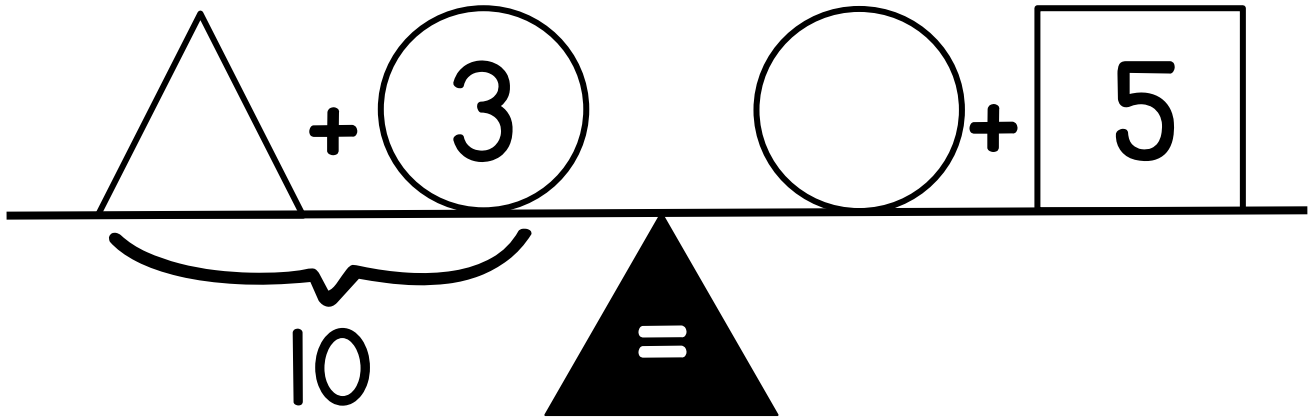
21



missing part

Balance the Scale

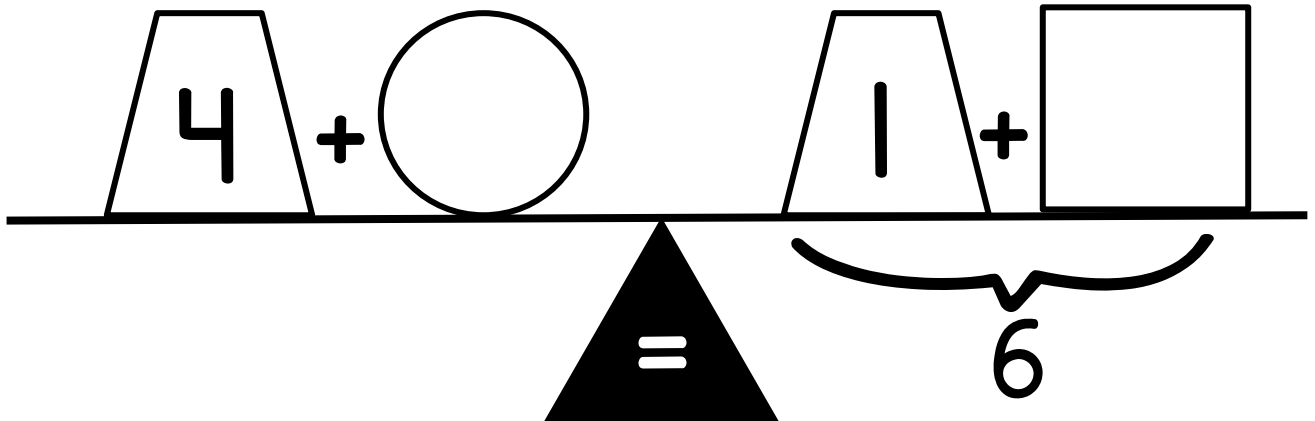
22



missing part

Balance the Scale

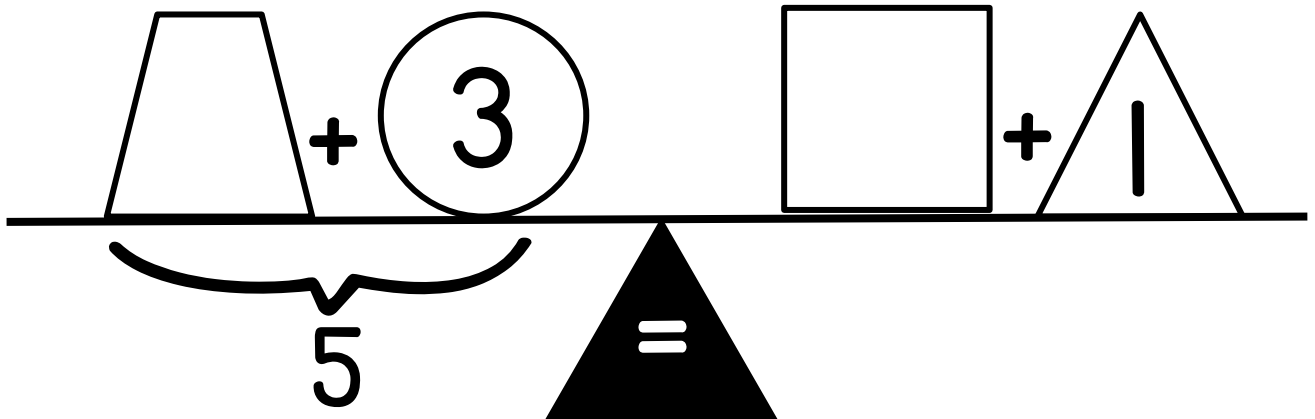
23



missing part

Balance the Scale

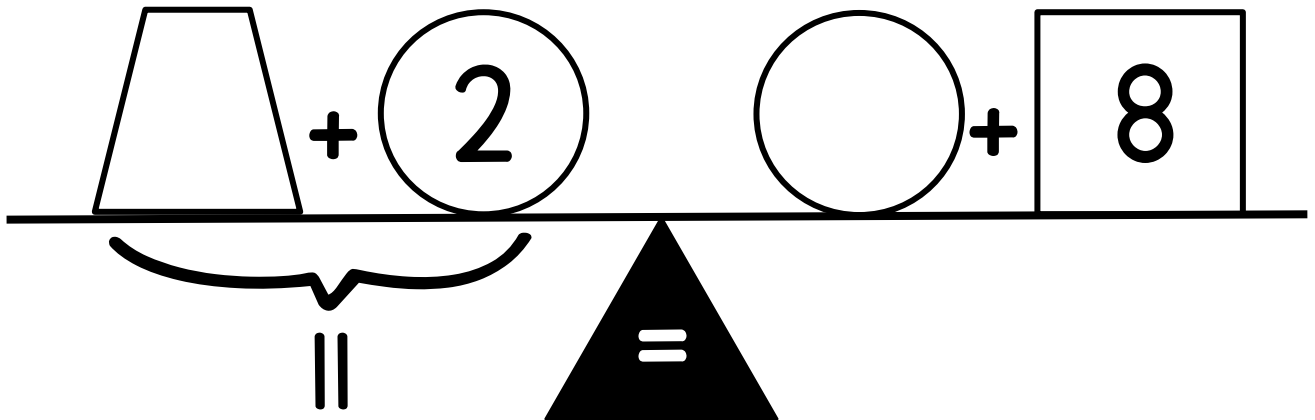
24



missing part

Balance the Scale

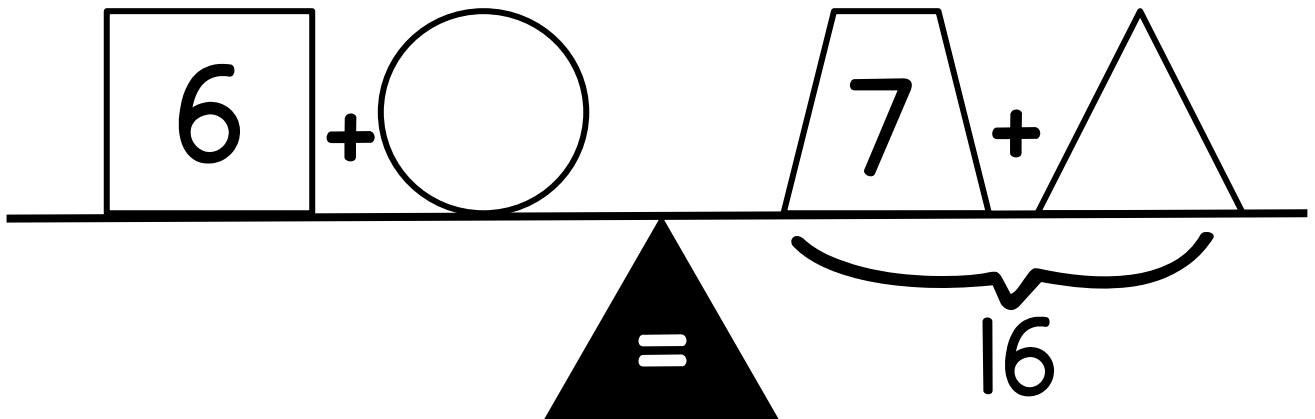
25



missing part

Balance the Scale

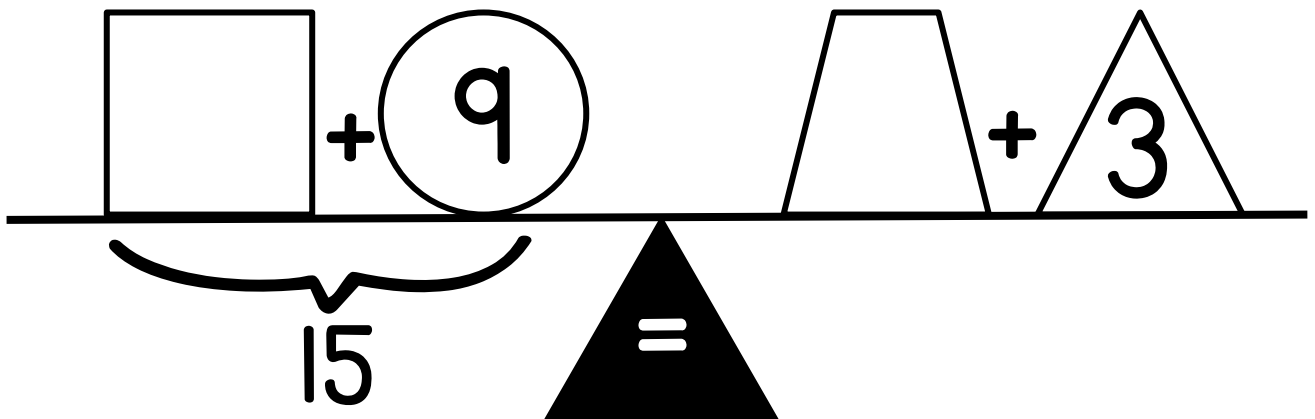
26



missing part

Balance the Scale

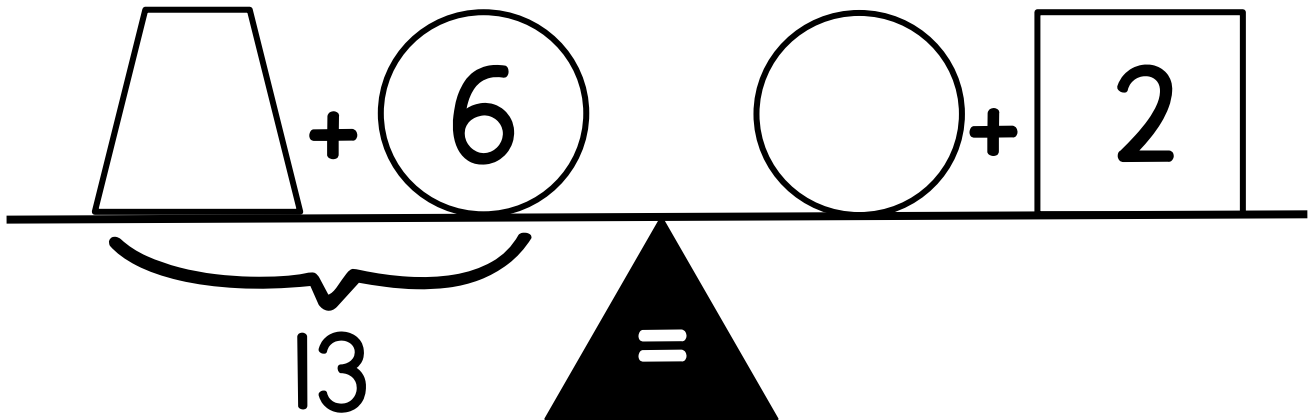
27



missing part

Balance the Scale

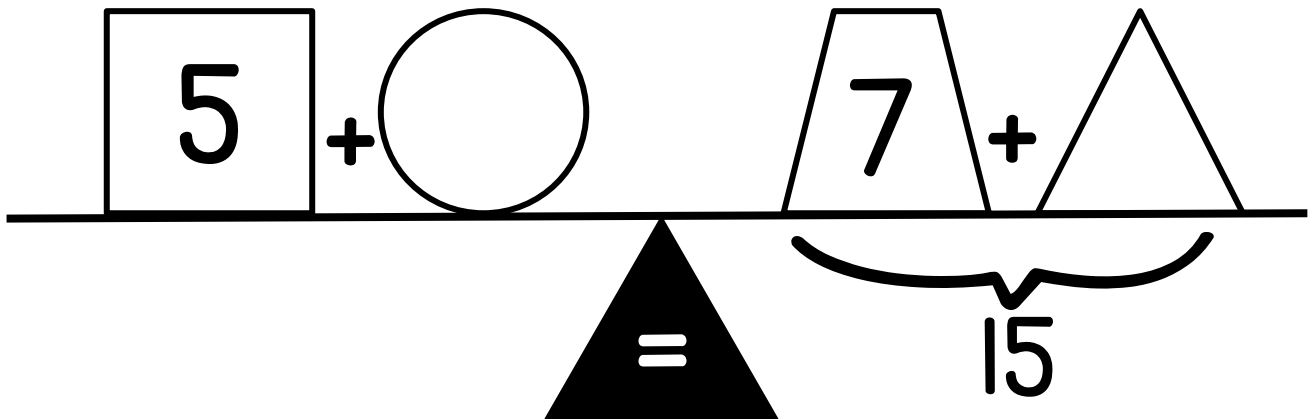
28



missing part

Balance the Scale

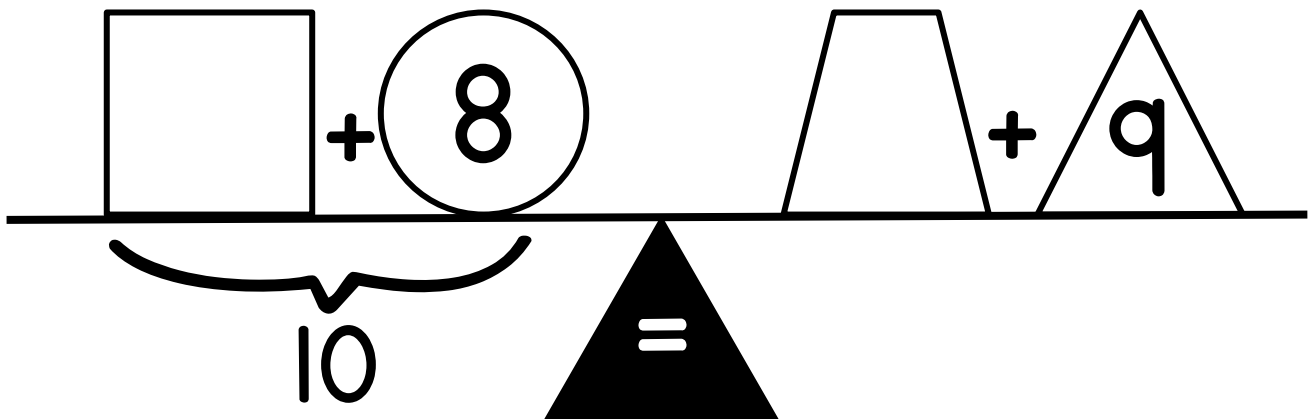
29



missing part

Balance the Scale

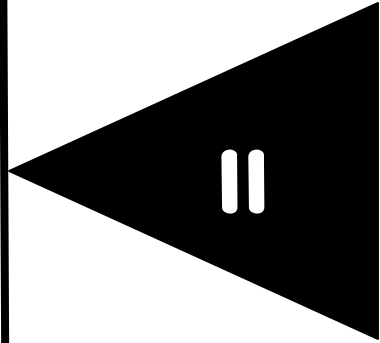
30



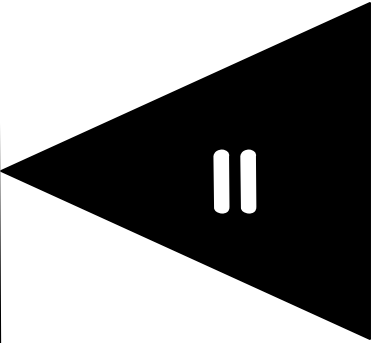
missing part

While this resource is intended to promote math conversations in classrooms and strengthen mental abilities in students, I realize our classrooms have different needs. For that reason, I have included a few different recording-log and work-mat choices.

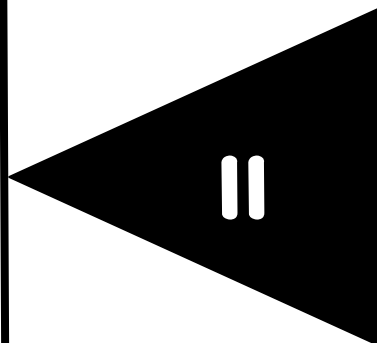
+



+



-

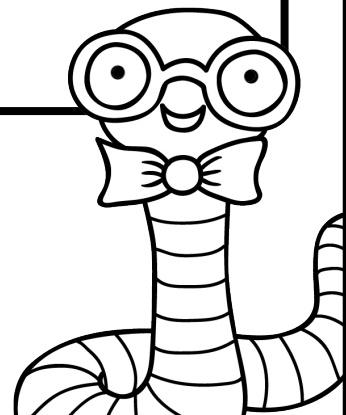


+

Name: _____

Number Balances

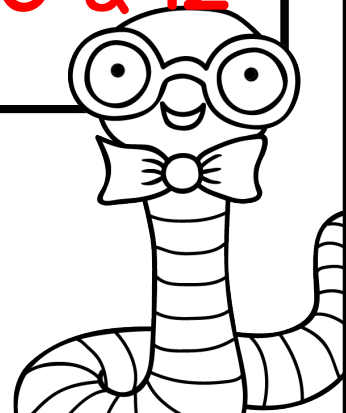
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	



Name: _____

Number Balances - ANSWER KEY

1 6	2 3	3 4	4 2
5 6	6 4	7 8	8 5
9 6	10 9	11 3	12 2
13 8	14 6	15 7	16 3
17 5	18 5	19 7 & 1	20 3 & 1
21 1 & 5	22 9 & 3	23 10 & 9	24 6 & 12
25 7 & 11	26 10 & 8	27 2 & 1	



Name:

Number Balances

+

+

=

I balanced the scale by

Name:

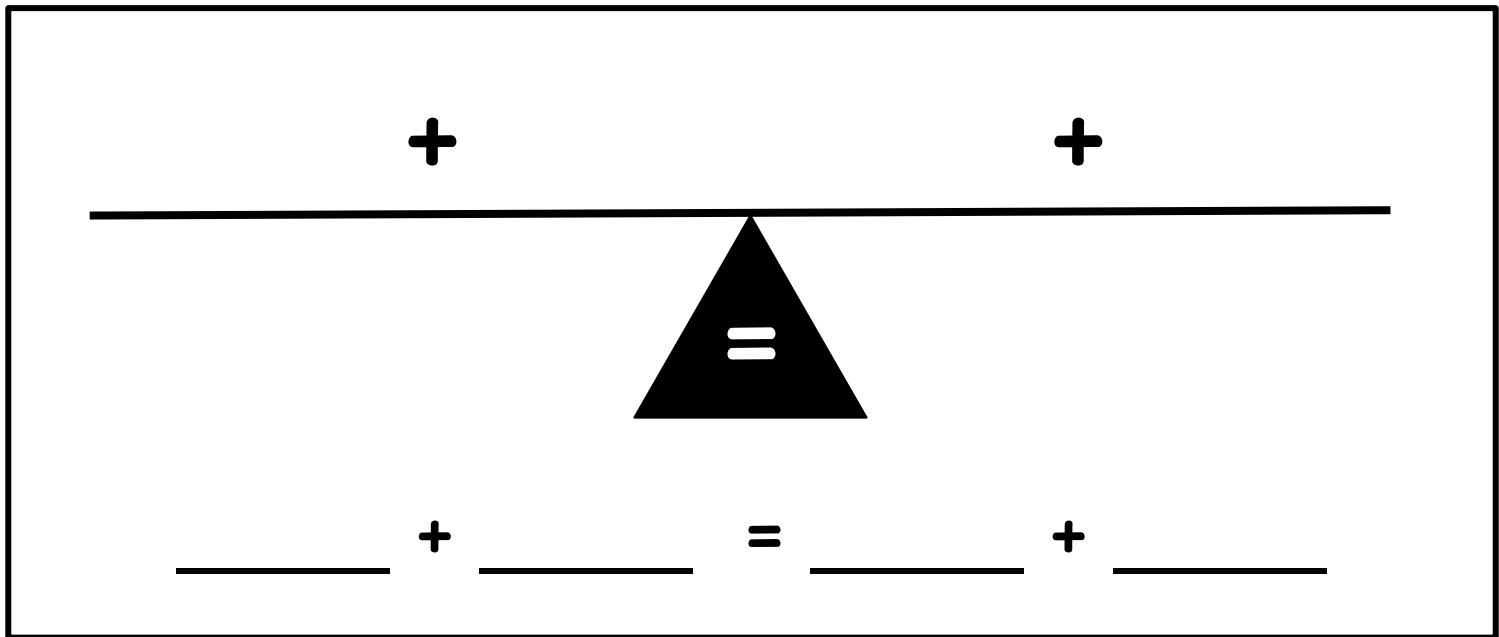
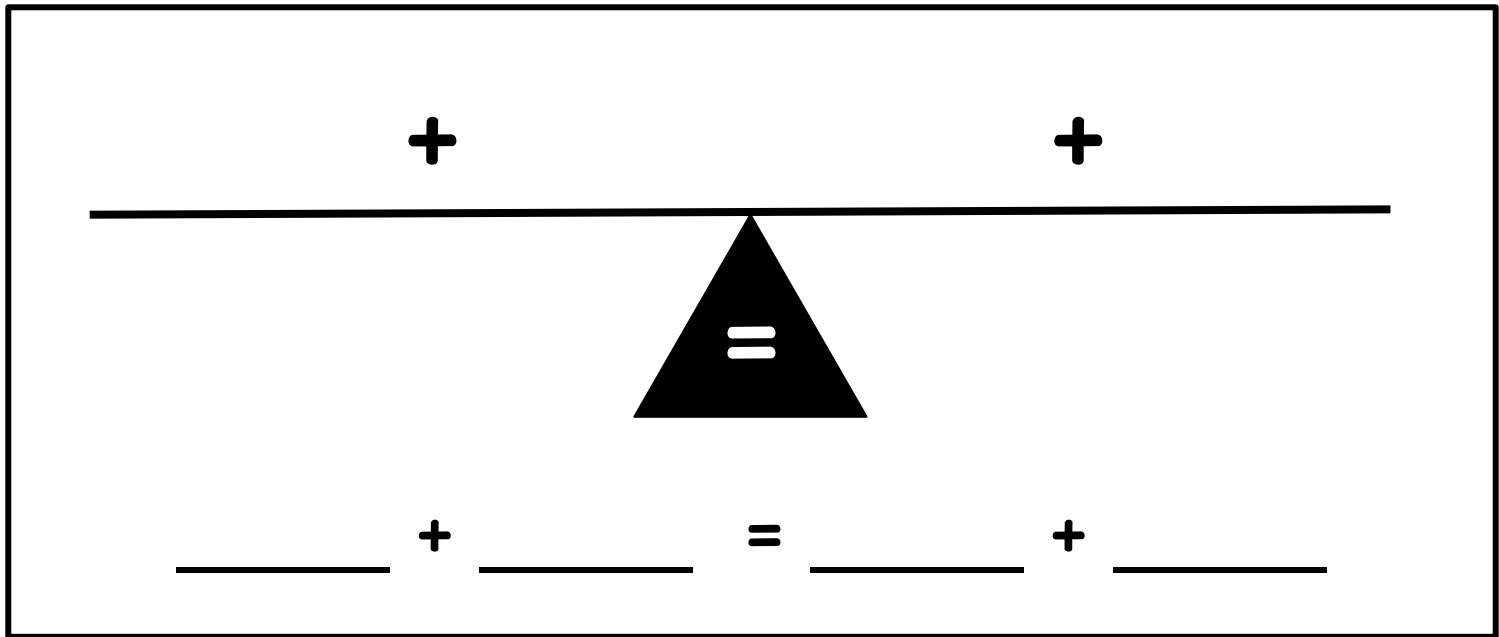
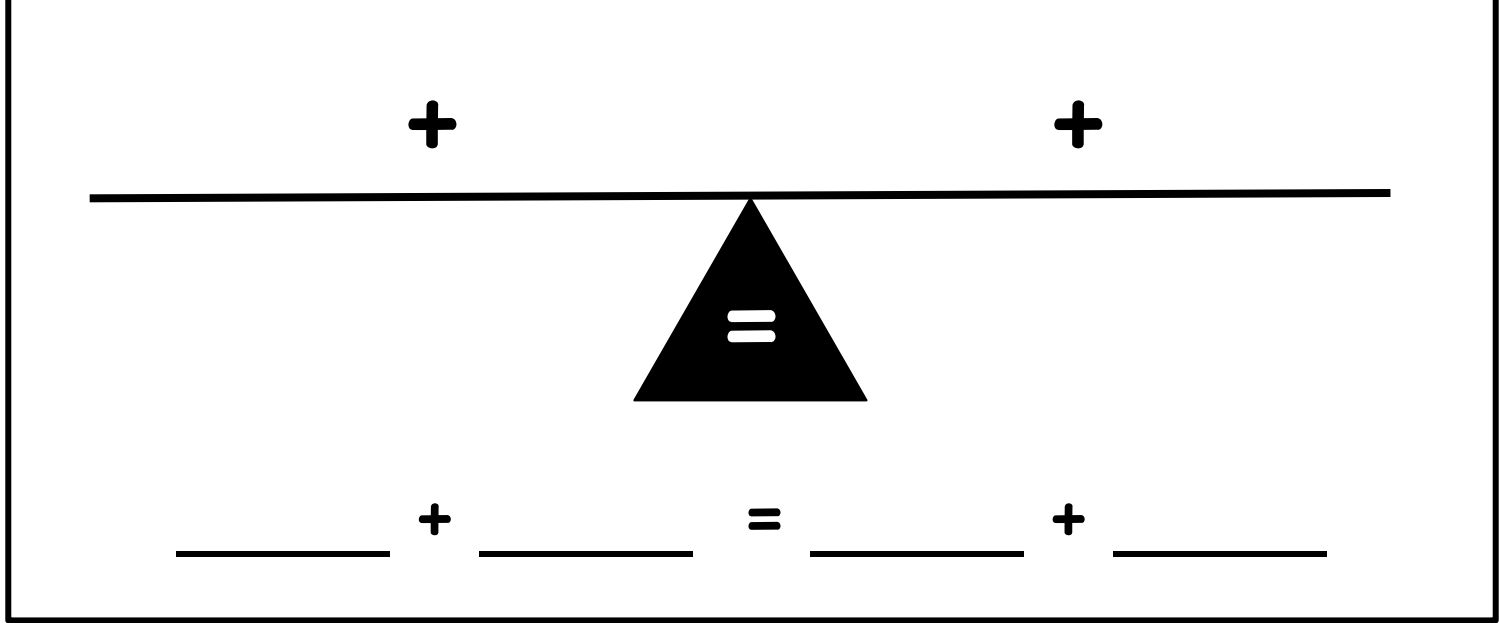
Number Balances

+

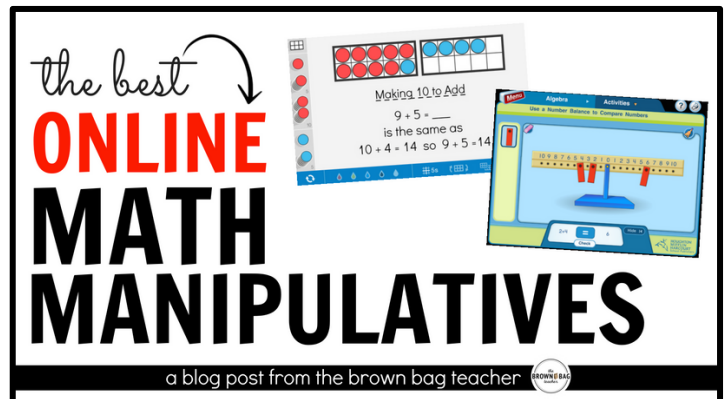
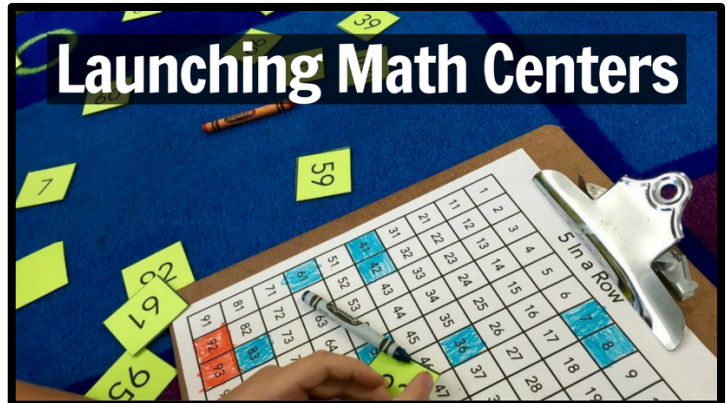
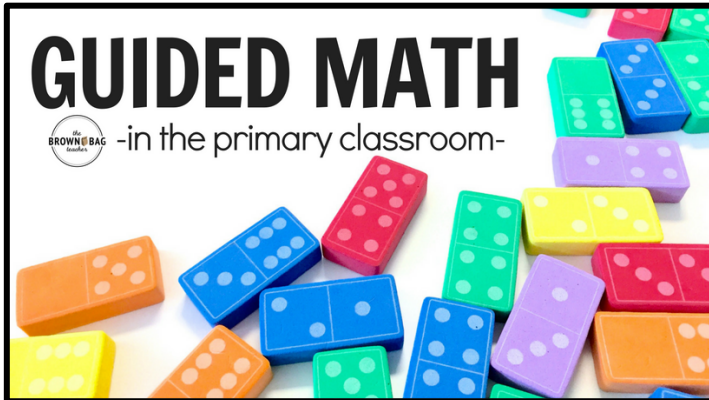
+

=

I balanced the scale by



Blog Posts to Check Out



Math Resources on TpT

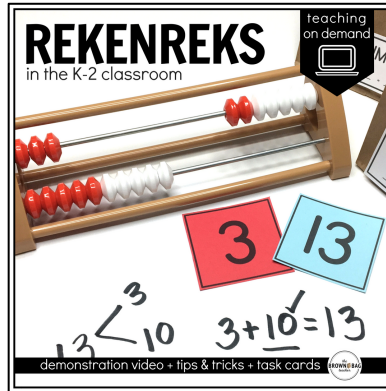
Below are paid resources I currently use or have used in my math classroom. If you have any questions about what is included in each resource, please let me know in the Q&A Section of my TpT Store before purchasing.



Math Centers
{1st grade}

22 Print & Go Math Games

This resource cover features a clear plastic storage bin filled with various math manipulatives including dice, spinners, and number cards. The text is overlaid on the image.

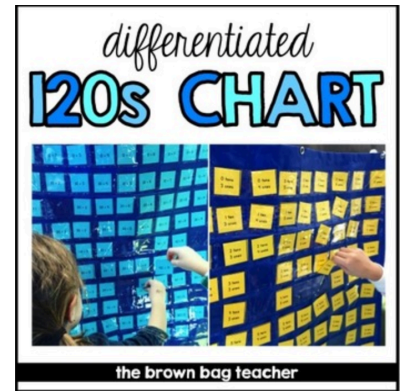


REKENREKS
in the K-2 classroom

teaching on demand

demonstration video + tips & tricks + task cards

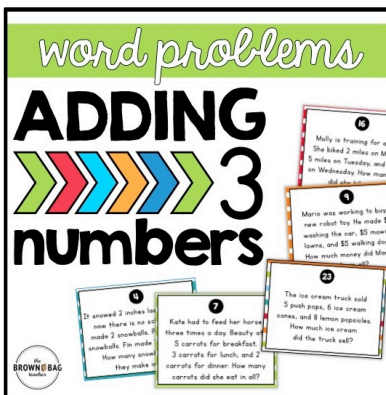
This cover shows a wooden rekenrek (abacus) with red and white beads. Below it are two task cards: one with the number 3 on a red background and another with 13 on a blue background. A math problem $3 + 10 = 13$ is also visible.



differentiated
120s CHART

the brown bag teacher

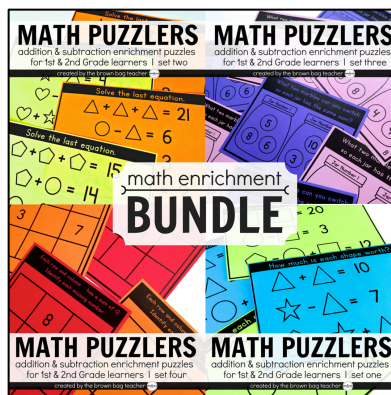
The cover displays a large grid of 120 small squares, each containing a number from 1 to 120. The grid is color-coded in blue and yellow.



word problems

ADDING 3 numbers

This cover features several word problem cards with math scenarios. For example, one card says: "Mario was working to buy a new robot toy. He made \$1 washing the car, \$3 mowing lawns, and \$5 selling eggs. How much money did Mario earn?"



MATH PUZZLES addition & subtraction enrichment puzzles for 1st & 2nd Grade learners | set two

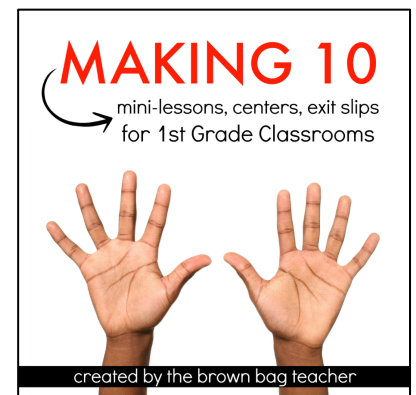
MATH PUZZLES addition & subtraction enrichment puzzles for 1st & 2nd Grade learners | set three

math enrichment
BUNDLE

MATH PUZZLES addition & subtraction enrichment puzzles for 1st & 2nd Grade learners | set four

MATH PUZZLES addition & subtraction enrichment puzzles for 1st & 2nd Grade learners | set one

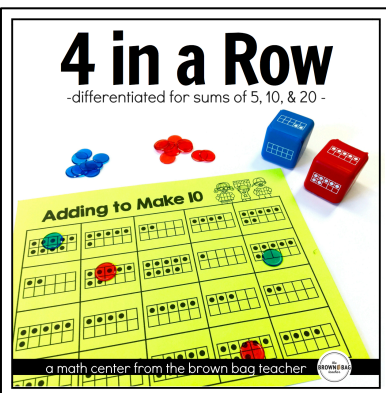
The cover is a collage of colorful math puzzle cards with various equations and symbols.



MAKING 10
mini-lessons, centers, exit slips
for 1st Grade Classrooms

created by the brown bag teacher

The cover shows two hands held up, palms facing forward, with fingers spread, representing the number 10.

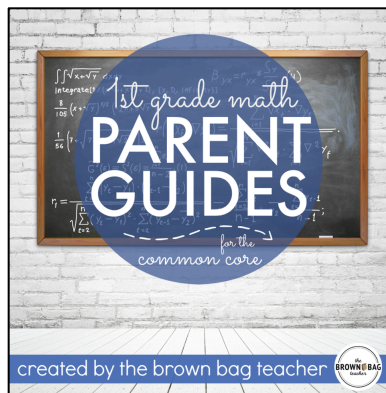


4 in a Row
-differentiated for sums of 5, 10, & 20-

Adding to Make 10

a math center from the brown bag teacher

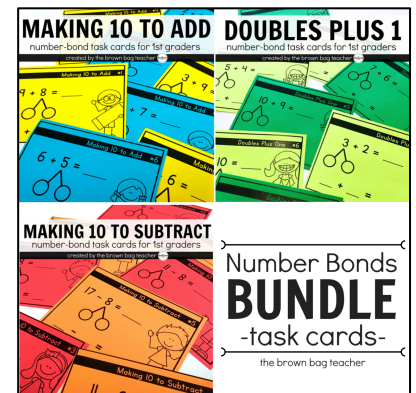
This cover shows a game board for "Adding to Make 10" with a grid of numbers and small figures. There are also some colorful blocks and dice scattered around.



1st grade math
PARENT GUIDES
for the common core

created by the brown bag teacher

The cover features a chalkboard background with math symbols and a blue circle containing the text.



MAKING 10 TO ADD number-bond task cards for 1st graders

DOUBLES PLUS 1 number-bond task cards for 1st graders

MAKING 10 TO SUBTRACT number-bond task cards for 1st graders

Number Bonds BUNDLE
-task cards-

the brown bag teacher

The cover is a collage of colorful number bond task cards with various math problems and diagrams.

Giving Credit



Thank you for downloading this resource! You have downloaded a single-classroom license. If you would like to share this resource with other teachers, please share the resource link or buy an additional license at 50% of the initial cost. This resource may not be uploaded or distributed online for free - on a district or outside site (including Amazon Inspire). If you have any questions about copyright, please just let me know! I have worked hard to create this resource, and I know your students will love it! Happy Teaching! -Catherine

