

# Rigor

Task Handout, Grade 1

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“A social justice priority in mathematics education is to openly challenge deficit thinking and the institutional tools and practices that perpetuate static views about children and their mathematics competencies. Eliminating the deficit discourse by focusing on learning rather than labels is a key step toward a more just and equitable mathematics education.” –*National Council of Supervisors of Mathematics and TODOS: Mathematics for All*

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# Conceptual Understanding Task #1

Decide if the equations are true or false. Explain your answers.

a.  $2 + 5 = 6$

b.  $3 + 4 = 2 + 5$

c.  $8 = 4 + 4$

d.  $3 + 4 + 2 = 4 + 5$

e.  $5 + 3 = 8 + 1$

f.  $1 + 2 = 12$

g.  $12 = 10 + 2$

h.  $3 + 2 = 2 + 3$

i.  $32 = 23$

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# Conceptual Understanding Task #2

## Materials

- A spinner with the numbers 0, 1, 2, ... 9
- A spinner with the decades 00, 10, 20, ... 90
- Math journal or teacher-made worksheet
- Pencil

## Actions

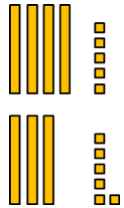
- a. Partner #1 spins the decade spinner and writes the number in the tens place.
- b. Partner #1 spins the 0-9 spinner and writes the number in the ones place to make a two-digit number.
- c. Partner #2 repeats steps 1 and 2 to make another two-digit number and writes it in their math journal or on the worksheet.
- d. Partners decided together whether the first number is greater than, less than, or equal to the second number.
- e. Partners write the corresponding symbol ( $<$ ,  $>$ ,  $=$ ) between the two numbers.
- f. Partners repeat until the teacher ends the game.

# Conceptual Understanding Task #3

## Actions

Part One: Solve the problem and explain your thinking.

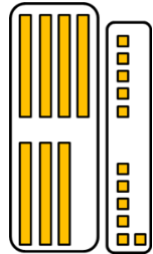
$$45+36$$



Part Two: Ford and Logan each solved the problem using a different strategy.

- How did Ford solve the problem? Will his strategy always work?
- How did Logan solve the problem? Will her strategy always work?
- How are their strategies similar or different?
- How was your strategy similar or different than Ford or Logan's?

Ford's thinking:

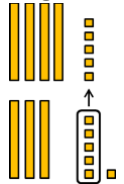


*I counted the tens first, so 10, 20, 30, 40, 50, 60, 70.*

*Then I counted the ones, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81.*

*So  $45+36=81$ .*

Logan's thinking:



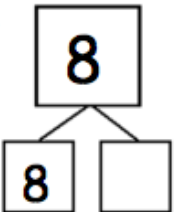
*First I broke 36 into  $30+1+5$ .*

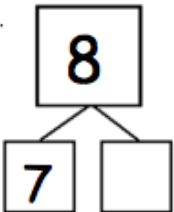
*Then I gave 5 from 36 to the 45 to make 50 because 50 is a friendly number.*

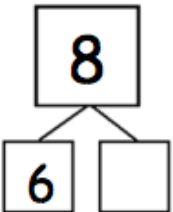
*Then I added  $30+50$  to make 80. Then I added 1 to 80 to get 81.*

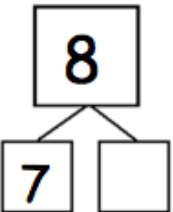
*So  $45+36=81$ .*

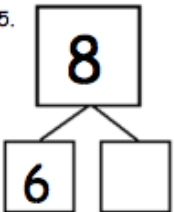
# Procedural Skills and Fluency Task #1

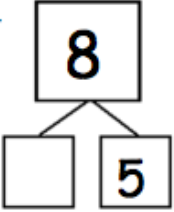
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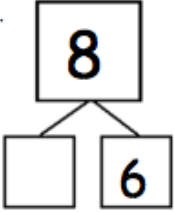
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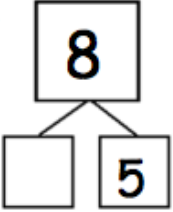
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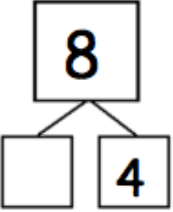
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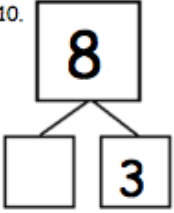
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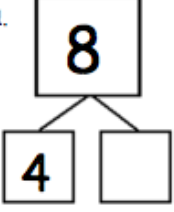
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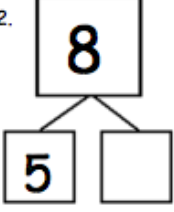
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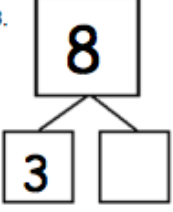
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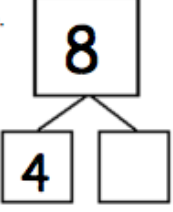
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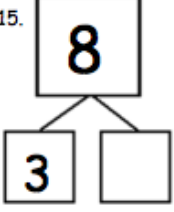
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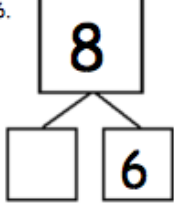
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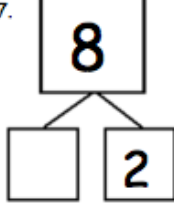
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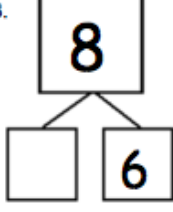
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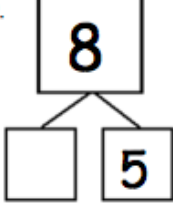
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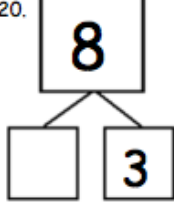
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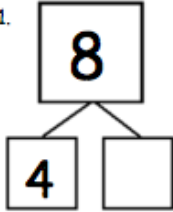
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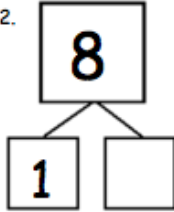
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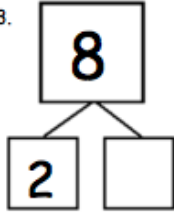
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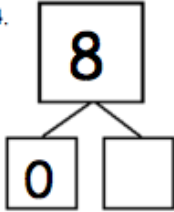
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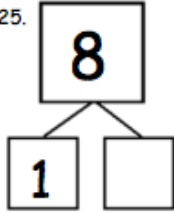
20. 

21. 

22. 

23. 

24. 

25. 

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## Procedural Skills and Fluency Task #2

Find the missing number in each of the following equations:

$$9-3=\square$$

$$8+\square=15$$

$$16-\square=5$$

$$\square=7-2$$

$$13=\square+7$$

$$6=14-\square$$

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# Procedural Skills and Fluency Task #3

## Materials

- A 100 chart per pair of students
- A set of digit cards per pair of students (four each of cards 0-9)
- Two different colors of counting chips, one for each student

## Action

- Player One draws two cards and then makes and reads aloud both of the numbers that can be made with those digits. Player One then chooses which of the two numbers to cover on their 100 chart.
- Player Two draws two cards and then makes and reads aloud both of his /her numbers and chooses which number to cover on the 100 chart.
- Players cannot cover a number that has already been covered, but they may have more than one counter in each row.
- If a player cannot make a number that is uncovered/available with the cards they drew, they lose their turn for that round.
- Play continues until one player has at least one number covered in each row of the 100 chart.
- If students run out of cards they should re-shuffle the cards and continue play.
- For a shorter version, students work together to cover at least one number in each row on the 100 chart.
- This can be extended by asking students to record the numbers they create.



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# Application Task #1

Read the word problem.

Draw and label.

Write a number sentence and a statement that matches the story.

There were 18 dogs splashing in a puddle. Some dogs left. There are 9 dogs still splashing in the puddle. How many dogs are left?

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## Application Task #2

- a. There were 7 children at the park. Then 4 more showed up. How many children were at the park all together?
- b. There were 7 children at the park. Some more showed up. Then there were 11 children in all. How many more children came?
- c. There were some children at the park. Four more children showed up. Then there were 11 children at the park. How many children were at the park to start with?

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## Application Task #3

Jasmine has eight daisies and three vases - one large, one medium-sized and one small.

She puts 5 daisies in the large vase, 2 in the medium vase and 1 in the small vase.

- Can you find another way to put daisies so that there are the most in the large vase and least in the small vase?
- Try to find as many ways as you can put the daisies in the vases with the most in the large vase and the least in the smallest vase. If you think you have found them all, explain how you know those are all the possibilities.