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## Breaking Down Common Core Math

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# COMMON CORE MATH

BY: DIALAH AZAM

## WHAT IS COMMON CORE

- Set of standards for Math and ELA (English Language Arts) at each grade level
- NOT related to PARCC testing
- Aligned with high-achieving math countries such as Singapore and China
- Changed the United States standards from procedural → logic-based

### TWO BIG GOALS:

1. Provide national foundation anyone can rely on
2. Bridge the gap of education between low-income students and their more affluent counterparts

# CRITICISM

Jack used the number line below to solve  $427 - 316$ . Find his error. Then write a letter to Jack telling him what he did right, and what he should do to fix his mistake.

Dear Jack



# CHANGING VOCABULARY

Old Language	New Language
word problem	math situation
carry the one	regroup ten ones as a ten
borrow	take a ten and regroup it as ten ones
*add	increase
*subtract	decrease
*more than / fewer than	compare
How do you know?	evidence

Subtraction: Craig checked out 28 books at the library. He read and returned some books. He still has 19 books checked out. How many books did Craig return? Draw a tape diagram or number bond to solve.

REQUIRING  
STUDENTS TO  
EXPLAIN  
“WHY”

$$2(x+y) = 2x+2y$$

$$2(x+y) = 2x+2y$$

$$(x+y)2$$

$$(x+y) \\ + (x+y)$$



## VIDEO OVERVIEW

- This student was taught a rule where when you want to go from mixed number  $\rightarrow$  improper fraction you:

$$3 + \frac{3}{8}$$

- *While she remembered there was a rule, she didn't remember it correctly*
- *Only when she drew out a picture did she catch her mistake*
- *Going back through the problem she figured why that rule*



# COUNTING-UP METHOD FOR SUBTRACTION

Add  $26 + 17$  by breaking apart numbers to make a ten.

Use a number that adds with the 6 in 26 to make a 10.  
Since  $6 + 4 = 10$ , use 4.

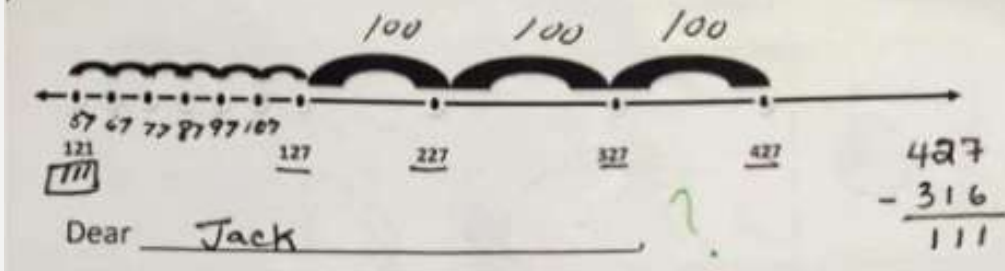
Think:  $17 = 4 + 13$ .

Add  $26 + 4 = 30$ .

Add  $30 + 13 = 43$ .

So,  $26 + 17 = 43$ .

Jack used the number line below to solve  $427 - 316$ . Find his error. Then write a letter to Jack telling him what he did right, and what he should do to fix his mistake.



320

400

427

What if the problem became:

$$\begin{array}{r} 417 \\ - 318 \\ \hline \end{array}$$

$$\begin{array}{r} 320 \\ 40 \\ 017 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ 80 \\ 17 \\ \hline \end{array} \quad 99$$

$$\begin{array}{r} 3 \quad 10 \\ \quad 0 \quad 17 \\ \hline 417 \\ - 318 \\ \hline 99 \end{array}$$

# METHOD-SPECIFIC PROBLEMS

9. Carole read 28 pages of a book on Monday and 103 pages on Tuesday. Is 75 pages a reasonable answer for how many more pages Carole read on Tuesday than on Monday? Explain your answer. (2-7)

Yes, 75 is a reasonable answer because  $103 - 28 = 75$

Estimate  $100 - 30 = 70$

Which addition sentence is the same as  $6 \times 3$ ?

- A.  $6 + 6$
- B.  $3 + 3 + 3 + 3 + 3 + 3$
- C.  $6 + 6 + 6$
- D.  $3 + 3 + 3$



# WHAT NEXT?



## HOW YOU CAN HELP

- You can now inform and correct
  - Admit to the flaws of Common Core:
    - Really bad textbooks
    - Untrained teachers
    - Horrible implementation
  - Realize changing how a whole nation processes math is going to take a while
- 