

## RELATIONAL SUBTRACTION

Error Analysis • Find the Mistake

Objective: *Inspect the reasoning, find the mistake, and repair it.*

**DO THIS** Check each solution. Find the mistake. Repair the reasoning.

**WORKED ERROR** Find the wrong step, then correct it.

**EXAMPLE** A student wrote:

$$15 - 8 = 9 \quad \times$$

8 to 10 is 2, 10 to 15 is 5  $\rightarrow$  7

$$15 - 8 = \underline{7}$$

**INSPECT EACH SOLUTION** Tick Correct or Incorrect. If incorrect, write the fix.

1

$$93 - 51 = 42$$

Correct  Incorrect

Fix:

2

$$98 - 10 = 87$$

Correct  Incorrect

Fix:

3

$$78 - 8 = 70$$

Correct  Incorrect

Fix:

4

$$44 - 9 = 25$$

Correct  Incorrect

Fix:

5

$$92 - 74 = 18$$

Correct  Incorrect

Fix:

**REPAIR & PROVE** Rewrite each one correctly, then check it.

1

$$78 - 53 = \square$$

$$53 + \square = 78$$

2

$$46 - 24 = \square$$

$$24 + \square = 46$$

3

$$91 - 36 = \square$$

$$36 + \square = 91$$

Most mistakes came from:  miscount  wrong operation  place value

TEACHER EDITION

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1  
 $93 - 51 = 42$   
 Correct    Incorrect  
 Fix: already correct

2  
 $98 - 10 = 87$   
 Correct    Incorrect  
 Fix: 88

3  
 $78 - 8 = 70$   
 Correct    Incorrect  
 Fix: already correct

4  
 $44 - 9 = 25$   
 Correct    Incorrect  
 Fix: 35

5  
 $92 - 74 = 18$   
 Correct    Incorrect  
 Fix: already correct

**REPAIR & PROVE** Rewrite each one correctly, then check it.

1  
 $78 - 53 = \underline{25}$   
 $53 + \underline{25} = 78$

2  
 $46 - 24 = \underline{22}$   
 $24 + \underline{22} = 46$

3  
 $91 - 36 = \underline{55}$   
 $36 + \underline{55} = 91$

**TEACHER NOTES** Answer key & guidance

Answers: #1 correct; #2 incorrect → 88; #3 correct; #4 incorrect → 35; #5 correct  
 Common error: Off-by-one when counting up across ten

Strategy: Recompute independently, compare

Prompt: "Where exactly did the reasoning change?"

Most mistakes came from:  miscount    wrong operation    place value