

## 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 → 7

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

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

1

$$74 - 30 = 44$$

Correct     Incorrect

Fix:

2

$$65 - 18 = 13$$

Correct     Incorrect

Fix:

3

$$94 - 3 = 81$$

Correct     Incorrect

Fix:

4

$$65 - 21 = 43$$

Correct     Incorrect

Fix:

5

$$59 - 45 = 14$$

Correct     Incorrect

Fix:

6

$$61 - 36 = 24$$

Correct     Incorrect

Fix:

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

1

$$59 - 40 = \square$$

$$40 + \square = 59$$

2

$$66 - 7 = \square$$

$$7 + \square = 66$$

3

$$76 - 66 = \square$$

$$66 + \square = 76$$

Most mistakes came from:  miscount     wrong operation     place value

TEACHER EDITION

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**EXAMPLE** A student wrote:

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

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1  
 $74 - 30 = 44$   
 Correct  Incorrect  
 Fix: already correct

2  
 $65 - 18 = 13$   
 Correct  Incorrect  
 Fix: 47

3  
 $94 - 3 = 81$   
 Correct  Incorrect  
 Fix: 91

4  
 $65 - 21 = 43$   
 Correct  Incorrect  
 Fix: 44

5  
 $59 - 45 = 14$   
 Correct  Incorrect  
 Fix: already correct

6  
 $61 - 36 = 24$   
 Correct  Incorrect  
 Fix: 25

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

1  
 $59 - 40 = \underline{19}$   
 $40 + \underline{19} = 59$

2  
 $66 - 7 = \underline{59}$   
 $7 + \underline{59} = 66$

3  
 $76 - 66 = \underline{10}$   
 $66 + \underline{10} = 76$

**TEACHER NOTES** Answer key & guidance

Answers: #1 correct; #2 incorrect → 47; #3 incorrect → 91; #4 incorrect → 44; #5 correct; #6 incorrect → 25  
 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