

## 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

$$91 - 24 = 67$$

Correct    Incorrect

Fix:

2

$$72 - 40 = 32$$

Correct    Incorrect

Fix:

3

$$69 - 34 = 35$$

Correct    Incorrect

Fix:

4

$$73 - 30 = 44$$

Correct    Incorrect

Fix:

5

$$89 - 58 = 30$$

Correct    Incorrect

Fix:

6

$$90 - 11 = 79$$

Correct    Incorrect

Fix:

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

1

$$42 - 34 = \square$$

$$34 + \square = 42$$

2

$$83 - 51 = \square$$

$$51 + \square = 83$$

3

$$90 - 83 = \square$$

$$83 + \square = 90$$

Most mistakes came from:  miscount    wrong operation    place value

TEACHER EDITION

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1  
 $91 - 24 = 67$   
 Correct    Incorrect  
 Fix: already correct

2  
 $72 - 40 = 32$   
 Correct    Incorrect  
 Fix: already correct

3  
 $69 - 34 = 35$   
 Correct    Incorrect  
 Fix: already correct

4  
 $73 - 30 = 44$   
 Correct    Incorrect  
 Fix: 43

5  
 $89 - 58 = 30$   
 Correct    Incorrect  
 Fix: 31

6  
 $90 - 11 = 79$   
 Correct    Incorrect  
 Fix: already correct

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

1  
 $42 - 34 = \underline{8}$   
 $34 + \underline{8} = 42$

2  
 $83 - 51 = \underline{32}$   
 $51 + \underline{32} = 83$

3  
 $90 - 83 = \underline{7}$   
 $83 + \underline{7} = 90$

**TEACHER NOTES** Answer key & guidance

Answers: #1 correct; #2 correct; #3 correct; #4 incorrect → 43; Strategy: Recompute independently, compare  
 #5 incorrect → 31; #6 correct  
 Common error: Off-by-one when counting up across ten Prompt: "Where exactly did the reasoning change?"

Most mistakes came from:  miscount    wrong operation    place value