

## 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

$$47 - 39 = 8$$

Correct     Incorrect

Fix:

2

$$90 - 67 = 22$$

Correct     Incorrect

Fix:

3

$$66 - 24 = 42$$

Correct     Incorrect

Fix:

4

$$59 - 33 = 16$$

Correct     Incorrect

Fix:

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

1

$$92 - 8 = \square$$

$$8 + \square = 92$$

2

$$90 - 2 = \square$$

$$2 + \square = 90$$

3

$$95 - 55 = \square$$

$$55 + \square = 95$$

Most mistakes came from:  miscount     wrong operation     place value

TEACHER EDITION

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1

$$47 - 39 = 8$$

Correct  Incorrect

Fix: already correct

2

$$90 - 67 = 22$$

Correct  Incorrect

Fix: 23

3

$$66 - 24 = 42$$

Correct  Incorrect

Fix: already correct

4

$$59 - 33 = 16$$

Correct  Incorrect

Fix: 26

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

1

$$92 - 8 = \underline{84}$$

$$8 + \underline{84} = 92$$

2

$$90 - 2 = \underline{88}$$

$$2 + \underline{88} = 90$$

3

$$95 - 55 = \underline{40}$$

$$55 + \underline{40} = 95$$

**TEACHER NOTES** Answer key & guidance

Answers: #1 correct; #2 incorrect  $\rightarrow$  23; #3 correct; #4 incorrect  $\rightarrow$  26

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