

## 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

$$57 - 48 = 41$$

Correct     Incorrect

Fix:

2

$$85 - 60 = 15$$

Correct     Incorrect

Fix:

3

$$68 - 57 = 10$$

Correct     Incorrect

Fix:

4

$$55 - 22 = 23$$

Correct     Incorrect

Fix:

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

1

$$63 - 56 = \square$$

$$56 + \square = 63$$

2

$$56 - 3 = \square$$

$$3 + \square = 56$$

3

$$52 - 12 = \square$$

$$12 + \square = 52$$

Most mistakes came from:  miscount     wrong operation     place value

TEACHER EDITION

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

1

$$57 - 48 = 41$$

Correct  Incorrect

Fix: 9

2

$$85 - 60 = 15$$

Correct  Incorrect

Fix: 25

3

$$68 - 57 = 10$$

Correct  Incorrect

Fix: 11

4

$$55 - 22 = 23$$

Correct  Incorrect

Fix: 33

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

1

$$63 - 56 = \underline{7}$$

$$56 + \underline{7} = 63$$

2

$$56 - 3 = \underline{53}$$

$$3 + \underline{53} = 56$$

3

$$52 - 12 = \underline{40}$$

$$12 + \underline{40} = 52$$

**TEACHER NOTES** Answer key & guidance

Answers: #1 incorrect  $\rightarrow$  9; #2 incorrect  $\rightarrow$  25; #3 incorrect  $\rightarrow$  11; #4 incorrect  $\rightarrow$  33

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