

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

$$72 - 64 = 62$$

Correct Incorrect

Fix:

2

$$83 - 27 = 56$$

Correct Incorrect

Fix:

3

$$76 - 30 = 46$$

Correct Incorrect

Fix:

4

$$45 - 16 = 29$$

Correct Incorrect

Fix:

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

1

$$72 - 70 = \square$$

$$70 + \square = 72$$

2

$$99 - 77 = \square$$

$$77 + \square = 99$$

3

$$68 - 47 = \square$$

$$47 + \square = 68$$

Most mistakes came from: miscount wrong operation place value

TEACHER EDITION

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1
 $72 - 64 = 62$
 Correct Incorrect
 Fix: 8

2
 $83 - 27 = 56$
 Correct Incorrect
 Fix: already correct

3
 $76 - 30 = 46$
 Correct Incorrect
 Fix: already correct

4
 $45 - 16 = 29$
 Correct Incorrect
 Fix: already correct

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

1
 $72 - 70 = \underline{2}$
 $70 + \underline{2} = 72$

2
 $99 - 77 = \underline{22}$
 $77 + \underline{22} = 99$

3
 $68 - 47 = \underline{21}$
 $47 + \underline{21} = 68$

TEACHER NOTES Answer key & guidance

Answers: #1 incorrect → 8; #2 correct; #3 correct; #4 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