

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

$$100 - 90 = 10$$

Correct Incorrect

Fix:

2

$$71 - 33 = 28$$

Correct Incorrect

Fix:

3

$$96 - 20 = 75$$

Correct Incorrect

Fix:

4

$$45 - 15 = 10$$

Correct Incorrect

Fix:

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

1

$$85 - 46 = \square$$

$$46 + \square = 85$$

2

$$63 - 53 = \square$$

$$53 + \square = 63$$

3

$$42 - 41 = \square$$

$$41 + \square = 42$$

Most mistakes came from: miscount wrong operation place value

TEACHER EDITION

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EXAMPLE A student wrote:

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

1
 $100 - 90 = 10$
 Correct Incorrect
 Fix: already correct

2
 $71 - 33 = 28$
 Correct Incorrect
 Fix: 38

3
 $96 - 20 = 75$
 Correct Incorrect
 Fix: 76

4
 $45 - 15 = 10$
 Correct Incorrect
 Fix: 30

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

1
 $85 - 46 = \underline{39}$
 $46 + \underline{39} = 85$

2
 $63 - 53 = \underline{10}$
 $53 + \underline{10} = 63$

3
 $42 - 41 = \underline{1}$
 $41 + \underline{1} = 42$

TEACHER NOTES Answer key & guidance

Answers: #1 correct; #2 incorrect → 38; #3 incorrect → 76; #4 incorrect → 30

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