

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

$$43 - 4 = 39$$

Correct Incorrect

Fix:

2

$$94 - 4 = 90$$

Correct Incorrect

Fix:

3

$$85 - 47 = 37$$

Correct Incorrect

Fix:

4

$$73 - 65 = 7$$

Correct Incorrect

Fix:

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

1

$$100 - 9 = \square$$

$$9 + \square = 100$$

2

$$59 - 2 = \square$$

$$2 + \square = 59$$

3

$$71 - 21 = \square$$

$$21 + \square = 71$$

Most mistakes came from: miscount wrong operation place value

TEACHER EDITION

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1

$$43 - 4 = 39$$

Correct Incorrect

Fix: already correct

2

$$94 - 4 = 90$$

Correct Incorrect

Fix: already correct

3

$$85 - 47 = 37$$

Correct Incorrect

Fix: 38

4

$$73 - 65 = 7$$

Correct Incorrect

Fix: 8

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

1

$$100 - 9 = \underline{91}$$

$$9 + \underline{91} = 100$$

2

$$59 - 2 = \underline{57}$$

$$2 + \underline{57} = 59$$

3

$$71 - 21 = \underline{50}$$

$$21 + \underline{50} = 71$$

TEACHER NOTES Answer key & guidance

Answers: #1 correct; #2 correct; #3 incorrect → 38; #4 incorrect → 8

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