

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

$$84 - 63 = 11$$

Correct Incorrect

Fix:

2

$$67 - 17 = 50$$

Correct Incorrect

Fix:

3

$$73 - 40 = 33$$

Correct Incorrect

Fix:

4

$$84 - 40 = 34$$

Correct Incorrect

Fix:

5

$$72 - 63 = 8$$

Correct Incorrect

Fix:

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

1

$$73 - 43 = \square$$

$$43 + \square = 73$$

2

$$90 - 72 = \square$$

$$72 + \square = 90$$

3

$$57 - 28 = \square$$

$$28 + \square = 57$$

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
 $84 - 63 = 11$

Correct Incorrect

Fix: 21

2
 $67 - 17 = 50$

Correct Incorrect

Fix: already correct

3
 $73 - 40 = 33$

Correct Incorrect

Fix: already correct

4
 $84 - 40 = 34$

Correct Incorrect

Fix: 44

5
 $72 - 63 = 8$

Correct Incorrect

Fix: 9

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

1
 $73 - 43 = \underline{30}$
 $43 + \underline{30} = 73$

2
 $90 - 72 = \underline{18}$
 $72 + \underline{18} = 90$

3
 $57 - 28 = \underline{29}$
 $28 + \underline{29} = 57$

TEACHER NOTES Answer key & guidance

Answers: #1 incorrect → 21; #2 correct; #3 correct; #4 incorrect → 44; #5 incorrect → 9
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