

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

$$58 - 33 = 24$$

Correct Incorrect

Fix:

2

$$75 - 18 = 57$$

Correct Incorrect

Fix:

3

$$66 - 19 = 37$$

Correct Incorrect

Fix:

4

$$83 - 61 = 22$$

Correct Incorrect

Fix:

5

$$53 - 6 = 47$$

Correct Incorrect

Fix:

6

$$56 - 51 = 45$$

Correct Incorrect

Fix:

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

1

$$52 - 49 = \square$$

$$49 + \square = 52$$

2

$$75 - 67 = \square$$

$$67 + \square = 75$$

3

$$86 - 20 = \square$$

$$20 + \square = 86$$

Most mistakes came from: miscount wrong operation place value

TEACHER EDITION

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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

$$58 - 33 = 24$$

Correct Incorrect

Fix: 25

2

$$75 - 18 = 57$$

Correct Incorrect

Fix: already correct

3

$$66 - 19 = 37$$

Correct Incorrect

Fix: 47

4

$$83 - 61 = 22$$

Correct Incorrect

Fix: already correct

5

$$53 - 6 = 47$$

Correct Incorrect

Fix: already correct

6

$$56 - 51 = 45$$

Correct Incorrect

Fix: 5

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

1

$$52 - 49 = \underline{3}$$

$$49 + \underline{3} = 52$$

2

$$75 - 67 = \underline{8}$$

$$67 + \underline{8} = 75$$

3

$$86 - 20 = \underline{66}$$

$$20 + \underline{66} = 86$$

TEACHER NOTES Answer key & guidance

Answers: #1 incorrect → 25; #2 correct; #3 incorrect → 47; #4 correct; #5 correct; #6 incorrect → 5
 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