

Reasoning — Why a strategy works

Name: _____

Date: _____



Circle the sentence that explains why each method works.

1 **87 + 29**

$$87 + 30 = 117$$

$$117 - 1 = 116$$

Each number was split by place value, then joined.

Both numbers moved up the same, so the gap stays.

One number was rounded up, then the extra taken off.

One number was rounded up, then the extra added back.

Why? 1 more than 29 was added, so 1 comes back off.

2 **39 - 17**

$$39 + 3 = 42$$

$$17 + 3 = 20$$

$$42 - 20 = 22$$

One number was rounded up, then the extra added back.

Both numbers moved up the same, so the gap stays.

One number was rounded up, then the extra taken off.

The second number was split to reach a ten.

Why?

3 **46 + 34**

$$40 + 30 = 70$$

$$6 + 4 = 10$$

$$70 + 10 = 80$$

Both numbers moved up the same, so the gap stays.

One number was rounded up, then the extra taken off.

Counting on from the smaller number gives the gap.

Each number was split by place value, then joined.

Why?

4 **73 - 43**

$$43 + 7 = 50$$

$$50 + 23 = 73$$

$$7 + 23 = 30$$

One number was rounded up, then the extra added back.

Both numbers moved up the same, so the gap stays.

The second number was split to reach a ten.

Counting on from the smaller number gives the gap.

Why?



Reasoning · Why a strategy works — Answer key



1. One number was rounded up, then the extra taken off. — 1 more than 29 was added, so 1 comes back off.

2. Both numbers moved up the same, so the gap stays. — both ends slid up by 3, so the distance between them did not change.

3. Each number was split by place value, then joined. — 46 and 34 were each split into ones and the rest, so nothing was left out.

4. Counting on from the smaller number gives the gap. — the two jumps from 43 up to 73 are the whole difference.