## RELATE ADDITION AND SUBTRACTION LENGTHS

Apply conceptual understanding of measurement by solving two step word problems.

1) Pam and Mark measured the distance around each other's wrists. Pam's measured 10 centimeters. Mark's measured 3 centimeters more than Pam's what might be the total length around their wrists. (All four wrists)
Solution: Length around the Pam's wrist = $\qquad$ centimeters.
Step 1: Mark's measured $\qquad$ centimeters more than Pam's. Length around the Mark's wrist $=10+3=$ $\qquad$ centimeters long.
Step 2:

$\qquad$ centimeters.
(OR)

## By tape diagram:

$$
23+23=
$$

| 10 |  | 20 |  | 30 | +3 |  | +10 | 43 | +3 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |  |  |  |  |

2) There is 29 centimeters of green ribbon. A blue ribbon is 9 centimeters shorter than the green ribbon. How long is the blue ribbon.
Step 1: Find the length of blue ribbon?
Green ribbon

## CENTIMETERS

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Blue ribbon

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Step 2:
Length of the blue ribbon $=29-9=$ $\qquad$ .
By using tape diagram:

| 29 | -9 |  |
| :--- | :--- | :--- |
|  |  |  |

