Segment Addition Postulate

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If **B** is between **A** and **C**, then **AB** + **BC** = **AC**.

A   B   C

Line Segment Addition:

L   ?   7   N

M

13
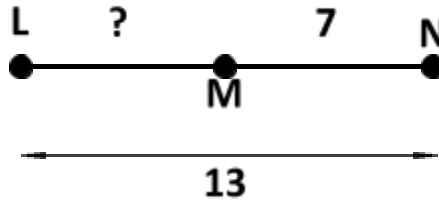
Step 1: Find distance of segments

$\overline{LM}$ *(missing)=*

$\overline{MN}$ *(known)=*

$\overline{LN}$ *(whole) =*

Step 2: Subtract

Whole – Part Known = Missing Part

Example:

5   ?

G   E   F

12
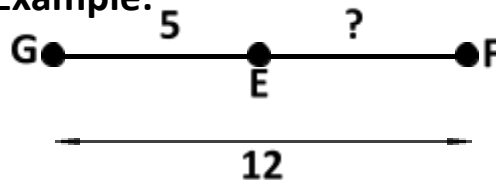
Segment Addition Postulate

Segment Addition with Algebra:

Combine like terms

$2x - 8$ $x - 5$

A● ————————— ●————————— ● B
                C
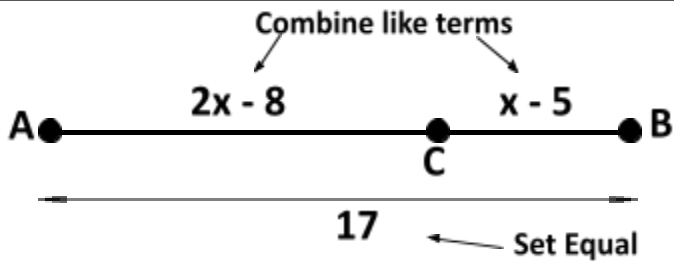
17 ← Set Equal

Step 1: Add two pieces together (combine like terms)

$$(2x - 8) + (x - 5) = 3x - 13$$

Step 2: Set equal to distance (whole)

$$3x - 13 = 17$$

Step 3: Solve

$$3x - 13 = 17$$

Segment Addition Postulate

Example:

H •———— x - 3 ————• K ———— 3x + 5 ————• J

|←———————————— 12 ——————————→|