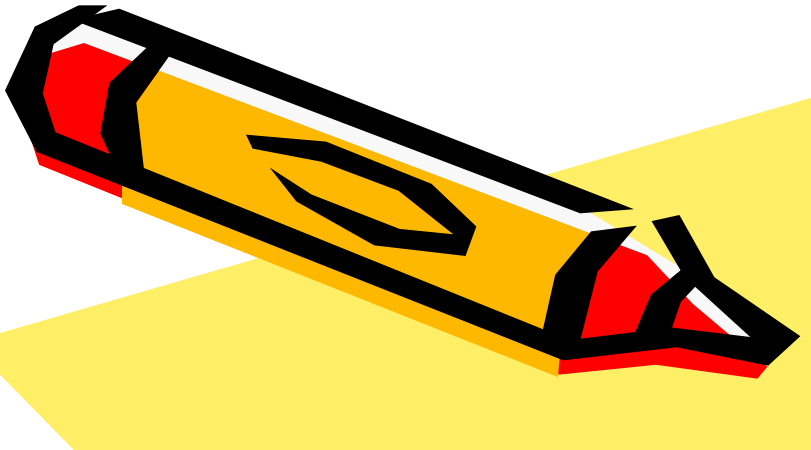
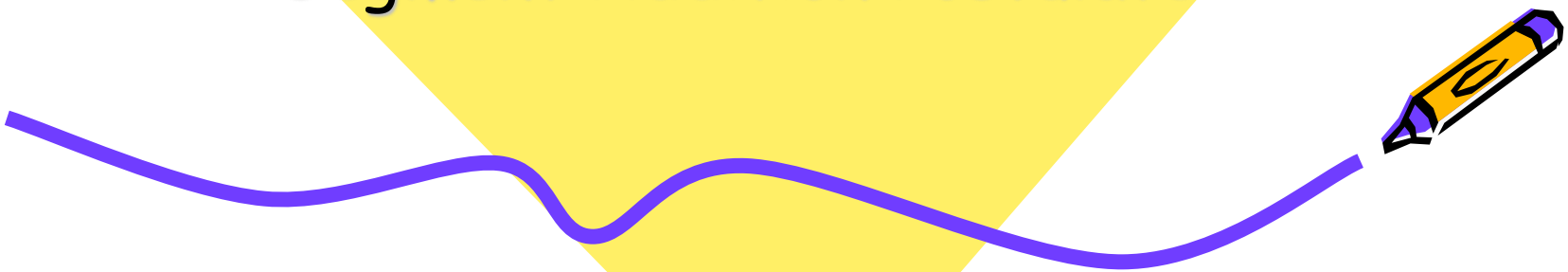


Geometry

Segment Addition Postulate



Segment Addition Postulate

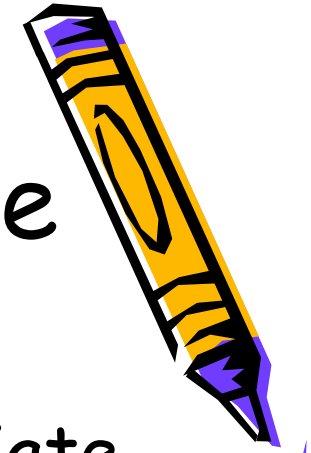
If B is between A and C,

then $AB + BC = AC$.

Between means somewhere in between A and C. It must be collinear. It does not suggest its in the middle (midpoint), so don't put it in the middle. Avoid assumptions.

Don't trick yourself into being wrong.

Segment Addition Postulate

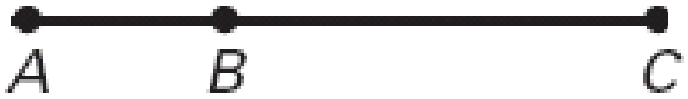


Draw each picture and write an appropriate Segment Addition statement.

1. A is between C and T

2. O is between D and G

Segment Addition Postulate



If $AB = 12$ and $BC = 26$, find AC

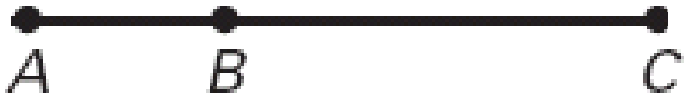
$$AB + BC = AC$$

$$12 + 26 = x$$

$$38 = x$$

$$AC = 38$$

Segment Addition Postulate



If $AB = 8$ and $AC = 21$, find BC

$$AB + BC = AC$$

$$8 + x = 21$$

$$X = 13$$

$$BC = 13$$

Segment Addition Postulate

If $AB = 2x+3$ and $BC = 4x+5$ and $AC = 56$, find BC

$$AB + BC = AC$$

$$2x+3 + 4x+5 = 56$$

$$X = 8$$

$$BC = 37$$

Segment Addition Postulate

If $AB = x+8$ and $BC = 4x+2$

and $AC = 9x-6$, find AC

$$AB + BC = AC$$

$$x+8 + 4x+2 = 9x-6$$

$$X = 4$$

$$AC = 30$$

Segment Addition Postulate

Given S is between R and T

(draw it, label it, write the segment addition statement)

1. If RS=15 and RT=42, find ST

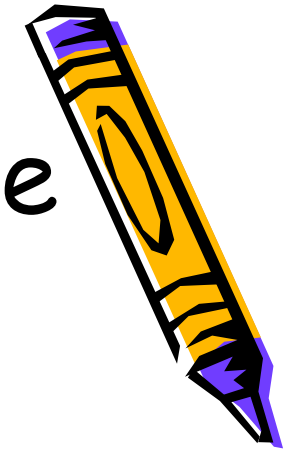
2. If RS=3x+4, ST=2x-1, RT=18, find RS

3. If RT=8x-2, SR=3x+1, ST=4x+5, find RT

Segment Addition Postulate (challenge)

If $AB = 2x$ and $BC = 3$ and $AC = 5x^2$, find AC

Segment Addition Postulate (challenge)



Given S is between R and T

(draw it, label it, write the segment addition statement)

1. If RS=7x, RT=21, and ST=$14x^2$, find ST

2. If RS=$3x^2+x$, ST=x+4, RT=20, find RS