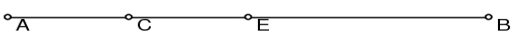
Geometry A **Name**_____
Segment Addition

Use the figure to the right to answer questions 1 – 5. For each problem, write the Segment Addition relationship that applies before substituting. For example, you might write AC + CB = AB



1. If AC = 5 and CB = 12, find AB.

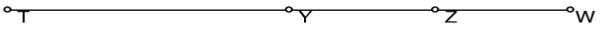
2. If AC = 4, CE = 6, and AB = 18, find EB

3. If E is the midpoint of AB, AC = 6, and EB = 9, how long is CE?

4. If E is the midpoint of AB, C is the midpoint of AE, and AB = 28, how long is CE?

5. If E is the midpoint of AB, C is the of AE, and CB = 12, how long is AC?

Using algebra to solve segment problems…



For questions 6 – 10, use the figure to the right Write an equation to solve each problem, then solve.

5. If TZ = 2x, ZW = 3, and TW = 15 Find x.

6. If TY = 4x + 5, YW = 6x, and TW = 20, Find x.

7. If Y is the midpoint of TW, TY = 3x and TW = 30, find x.

8. If Y is the midpoint of TW, TY = 4x – 4 and YW = 2x + 8, find x.

9. If Y is the midpoint of TW, Z is the midpoint of YW, ZW = 2x, and TW = 40, find x.

10. If Y is the midpoint of TW, Z is the midpoint of YW, YZ = 2x – 1, and TW = 20, find x.