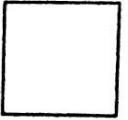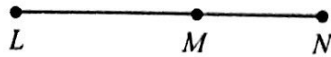**Name:** _____ **Unit 1:** Geometry Basics

Date: _____ **Per:** _____ **Homework 2:** Segment Addition Postulate

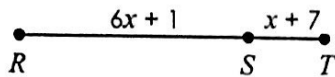## ** This is a 2-page document! **
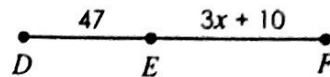
Use the diagram below to answer questions 1 and 2.	**1.** If $LM = 22$ and $MN = 15$, find LN.
L M N	**2.** If $LN = 54$ and $LM = 31$, find MN.

3. If $RT = 36$, find the value of x.

$6x + 1$ $x + 7$
R   S   T

4. If $DF = 9x - 39$, find EF.

47 $3x + 10$
D   E   F

5. If $UW = 6x - 35$, find UW.

19 $4x - 20$
U   V   W
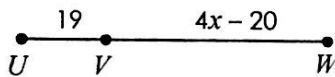
6. If $HJ = 7x - 27$, find the value of x.

$3x - 5$ $x - 1$
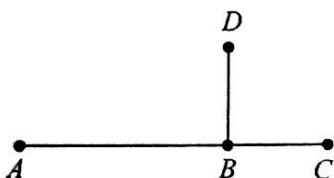H   I   J
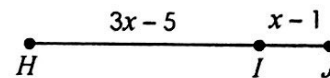
7. If $BD = 7x - 10$, $BC = 4x - 29$, and $CD = 5x - 9$, find each value.
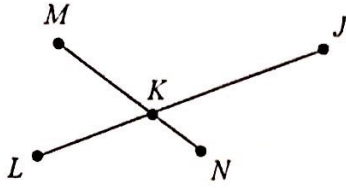
B   C   D
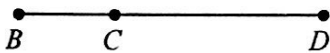
$x =$ _____

$BC =$ _____
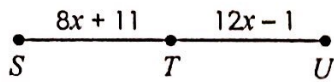
$CD =$ _____

$BD =$ _____

8. If $\overline{BD} \cong \overline{BC}$, $BD = 5x - 26$, $BC = 2x + 1$, and $AC = 43$, find AB.
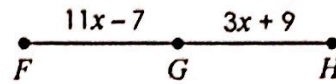
D

A   B   C

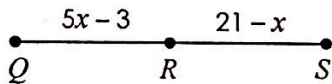**9.** If $\overline{LK} \cong \overline{MK}$, $LK = 7x - 10$, $KN = x + 3$, $MN = 9x - 11$, and $KJ = 28$, find LJ.

M •

• J

K

• N

L •

10. If T is the midpoint of $\overline{SU}$, find x.

$8x + 11$ $12x - 1$

S   T   U

11. If G is the midpoint of $\overline{FH}$, find FG.

$11x - 7$ $3x + 9$

F   G   H

12. If R is the midpoint of $\overline{QS}$, find QS.

$5x - 3$ $21 - x$

Q   R   S

13. If B is the midpoint of $\overline{AC}$, and $AC = 8x - 20$, find BC.

$3x - 1$

A   B   C
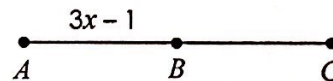
14. If $\overline{EF}$ bisects $\overline{CD}$, $CG = 5x - 1$, $GD = 7x - 13$, $EF = 6x - 4$, and $GF = 13$, find EG.

E •

• D

G

• F

C •
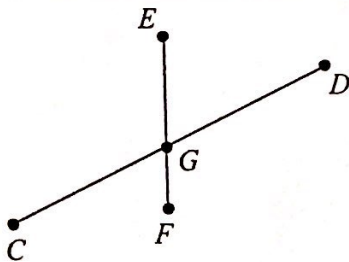
15. If R is the midpoint of $\overline{QS}$, $RS = 2x - 4$, $ST = 4x - 1$, and $RT = 8x - 43$, find QS.

Q   R   S   T