**Segment (and Angle) Relationships Homework #1**

**Find the value of x and SR if R is between S and T. Justify steps!**

1. $SR=3x, RT=2x+1, ST=6x-1$ 2. $SR=5x-3, ST=7x+1, RT=3x-1$

**Find the value of the variable and ST if S is between R and T. Justify steps!**

3. $RS=2x, ST=3x, RT=25$ 4. $RS=16, ST=2x, RT=5x+10$

5. $RS=3y+1, ST= 2y, RT=21$

6.



7.



**Decide whether the statement is *true or false*. If the statement if false, reword the statement so it is true.**

8. Two angles are complementary if the sum of their measures is 180°

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9. Two angles are supplementary if the sum of their measures is 180°

10. Two angles are adjacent angles if they share a common vertex.

**Determine whether the angles are complementary, supplementary or neither.**



11. 12. 13.

**Find the measure of the complement of the given angle.**



14. 15. 16.

**Find the measure of the supplement of the given angle.**



17. 18. 19.

20. Find x and the measure of $\overbar{JK} $if K is the midpoint of $\overbar{JL}$. Show work.



**Find the value of the variable and QR if Q is between P and R. Justify steps!**

21. $PQ=1-x, QR=4x+17, PR=-3x$

22. $PR=7n+8, PQ=4n-3, QR=6n+2$