Review of Lessons 2-1, 2-2, and 2-3

Underline the hypothesis and circle the conclusion of each conditional statement.

1) If the date is October 9, then the DAHS seniors are presenting their culminating projects.

2) If a student wants to do well in Geometry, then they will study their vocabulary daily.

Write the converse of each statement and decide if each of them are true or false (including the original statement) and whether they are biconditional.

3) If an integer is greater than 10, then it is a positive integer.

Converse:

4) If an angle's measure = 90°, then it is a right angle.

Converse:

The following statements are false; provide a counter example for each.

5) If the sum of two integers is even, then the integers are even.

6) An angle is an obtuse angle if its measure is greater than 90°.

7) Use a property from algebra to justify each step.

$3(2x + 1) = \frac{1}{2}(30)$	Given
$6x + 3 = \frac{1}{2}(30)$	
$12x + 6 = 30$	
$12x = 24$	
$x = 2$	

State the property that justifies each statement.

8) m< ABC + m< CBD = m< ABC + m< CBD

9) If ST + TV = SV, then SV = ST + TV

10) If m< 1 = m< 2 and m< 2 = m< 3, then m< 1 = m< 3

Given that ray JL bisects < NJK and M is the midpoint of segment NJ. State the definition, postulate or theorem that justifies each statement.

11) m< 1 = $\frac{1}{2}$ m< NJK

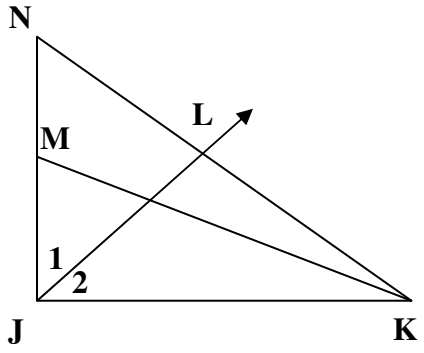
12) MJ = $\frac{1}{2}$ NJ

13) m< 1 = m< 2

14) m< NJK = m< 1 + m< 2

15) $\overline{NM} \cong \overline{MJ}$

16) NL + LK = NK



Given that R is the midpoint of segment QT, S is the midpoint of segment RT, ray RX bisects < WRZ, and ray RY bisects < XRZ. Solve the following using the diagram on the right.

17) By the midpoint theorem, RS = $\frac{1}{2}$ _____

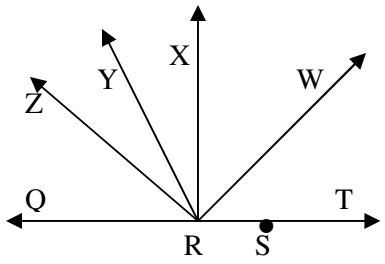
18) If QT = 26, then QR = _____ and ST = ___

19) By the angle bisector theorem,

m< WRX = $\frac{1}{2}$ m< _____

20) If m< YRZ = 26, then m< XRZ = _____ and

m< WRZ = _____



Answer Key:

1) H: the date is October 9
   C: the DAHS seniors are their culminating projects
2) H: a student wants to do well in Geometry
   C: they will study their vocabulary daily
3) true
   Converse: If an integer is positive, then it is > 10. false
4) true
   converse: If an angle is a right angle, then its measure = 90°. True
5) 1 + 3 = 4
6) Straight angle = 180°
7) Distributive property, multiplication property, substitution property, division property
8) Reflexive property
9) Symmetric property
10) Transitive property
11) Angle bisector theorem
12) Midpoint theorem
13) Definition of an angle bisector
14) Angle addition postulate
15) Definition of a midpoint
16) Segment addition postulate
17) RT
18) 13, 6.5
19) WRZ
20) 52, 104