Angle Relationships TEST REVIEW

1. Find the measure of each angle if the m<HFK=90° and m<HFG=135°.

 Ray FJ is an angle bisector of <HFK.



a. m<KFG= \_\_\_\_\_\_\_\_\_\_\_\_ b. m<JFK= \_\_\_\_\_\_\_\_\_\_\_

c. m<HFE= \_\_\_\_\_\_\_\_\_\_\_\_ d. m<EFK= \_\_\_\_\_\_\_\_\_\_\_



1e.

 Find the m<KLM = \_\_\_\_\_\_\_\_\_\_\_

2.



3. Classify all that apply, adjacent, vertical, linear pairs, ONE right angle, complementary, supplementary, and/or congruent.

a. <1 and <5 b. <GFH and <CFG

c. <2 and <5 d. <2 and <FCD

4. Two angles are complementary. The measure of one angle is 21 more than twice the measure of the other angle. Find the measures of the angles. (Show all work)

5. The measure of the supplement of an angle is 36 less than the measure of the angle. Find the measures of the angle. (Show all work).

**Directions:** For questions #6-10, show all geometry, justify the set up, and show all work to receive full credit!

6 a. 6b.



 x = \_\_\_\_\_\_\_\_\_\_ x = \_\_\_\_\_\_\_\_\_\_

7. $\vec{HL}$ bisects <KHI.

a. b.



d = \_\_\_\_\_\_\_\_\_\_ a = \_\_\_\_\_\_\_\_\_\_

c. If $\vec{HL}$ bisects <KHI, determine if the following statements could be true or false.

 <KHL$ ≅$ <LHI \_\_\_\_\_ L is in the interior of <KHI \_\_\_\_\_

 m<KHL = 50$°$ and m<KHI = 110$°$ \_\_\_\_\_\_ m<LHI = $\frac{1}{2}$(m<KHI) \_\_\_\_\_\_\_

8a. 8b. Using information from 12a., find x, if

 m<VSW= 8x – 2.



$∠TSU=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$ x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

8c. Using the y and x from 8a and 8b above, find the value of 4x – 10y = \_\_\_\_\_\_\_\_\_\_\_\_\_\_



9. In the figure to the right, $\vec{XP}$ and $\vec{XT}$ are opposite rays.

a. If *<SXT=3a – 4, <RXS=2a + 5, <RXT=111°.* Find *a* and the measure of <RXS.

a = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

<RXS = \_\_\_\_\_\_\_\_\_\_\_\_\_

b. If *<QXR= a + 10, <QXS = 4a – 1*, and *<RXS=91°,* Find *a* and <QXS.

a = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

<QXS = \_\_\_\_\_\_\_\_\_\_\_\_\_

10.

a.

 a)



x = \_\_\_\_\_\_\_\_\_\_\_\_

b.

<PQT = \_\_\_\_\_\_\_\_\_\_\_\_\_



11.



12.

13. If *w //v*, give the justification for each statement.

a. <2<12 b. <8<14 c. <5<13

d. <10<2 e. <7 + <16 =180° f. <16<6

14. If m<1= 50° and m<3=60°, find the measures of each angle. Fill them in on the picture and list them out in order.

$$∠1=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠2=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠3=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠4=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠5=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠6=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠7=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠8=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

15. If m<3=43°, find the measures of each angle. Fill them in on the picture and list them out in order.



$$∠6=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠7=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠8=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠9=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠10=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠11=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠12=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠13=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠14=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠15=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠16=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠1=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠2=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠3=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠4=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

$$∠5=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

**Directions #16-19**: Show all work for every step and justify your set up. Find x and y.

16. 17.

x = \_\_\_\_\_\_\_\_

y = \_\_\_\_\_\_\_\_

x = \_\_\_\_\_\_\_\_

y = \_\_\_\_\_\_\_\_

18. 19.

x = \_\_\_\_\_\_\_\_

y = \_\_\_\_\_\_\_\_

x = \_\_\_\_\_\_\_\_

y = \_\_\_\_\_\_\_\_

 Find the value of 4x – 3y = \_\_\_\_\_\_\_\_\_\_\_ Find the value of 2x + 5y = \_\_\_\_\_\_\_\_\_\_

20. If <3 is complementary to <2 and <1 is supplementary to <3. Find x and y if <1= 13x+4, <2=5y+4 and <3= 6x - 14

x = \_\_\_\_\_\_\_\_

y = \_\_\_\_\_\_\_\_