

Name: _____

KEY

Date: _____

Block: _____

Geometry Semester Review - Chapter 1 Pt. 2

1. Name all pairs of supplementary angles.

$$\angle 1 + \angle 5, \angle 4 + \angle 5$$

2. Name all linear pairs.

$$\angle 1 + \angle 5, \angle 4 + \angle 5$$

2. Name a pair of angles that are adjacent, but do not form a linear pair.

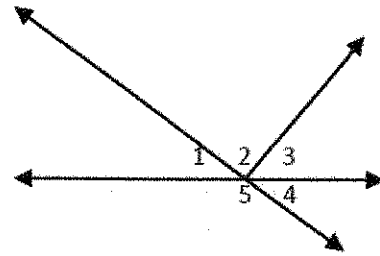
$$\angle 1, \angle 2; \angle 2, \angle 3; \angle 3, \angle 4$$

3. Name a pair of congruent angles, and tell why they are congruent.

$$\angle 1 \cong \angle 4 \text{ by vertical } \angle \text{'s}$$

4. Name a pair of non-adjacent angles.

$$\angle 1 + \angle 3, \angle 2 + \angle 4, \angle 3 + \angle 5, \angle 4 + \angle 1, \angle 5 + \angle 2$$



5. S is between R and T. Find RT.

$$5x - 6 + 2x = 3x + 2$$

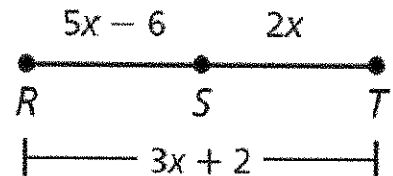
$$\begin{array}{r} 7x - 6 = 3x + 2 \\ -3x \quad -3x \\ \hline 4x - 6 = 2 \end{array}$$

$$\begin{array}{r} 4x - 6 = 2 \\ +6 \quad +6 \\ \hline 4x = 8 \end{array}$$

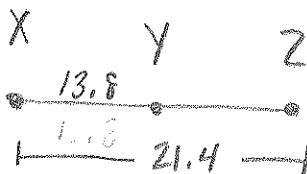
$$\begin{array}{r} 4x = 8 \\ \frac{4}{4} \quad \frac{8}{4} \\ \hline x = 2 \end{array}$$

$$x = 2$$

$$\boxed{RT = 3(2) + 2 = 8}$$



6. Y is between X and Z.
- $XY = 13.8$
- , and
- $XZ = 21.4$
- . Find YZ.



$$XY + YZ = XZ$$

$$13.8 + YZ = 21.4$$

$$\begin{array}{r} 13.8 + YZ = 21.4 \\ -13.8 \quad -13.8 \\ \hline YZ = 7.6 \end{array}$$

$$\boxed{YZ = 7.6}$$

7. Q is between P and R. Find PR.

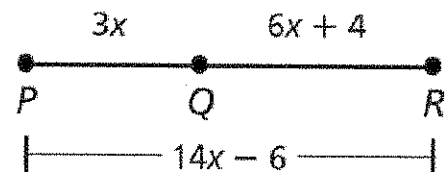
$$3x + 6x + 4 = 14x - 6$$

$$\begin{array}{r} 9x + 4 = 14x - 6 \\ -9x \quad -9x \\ \hline 4 = 5x - 6 \end{array}$$

$$\begin{array}{r} 4 = 5x - 6 \\ +6 \quad +6 \\ \hline 10 = 5x \end{array}$$

$$\begin{array}{r} 10 = 5x \\ \frac{10}{5} = \frac{5x}{5} \\ \hline 2 = x \end{array}$$

$$2 = x$$



$$PR = 14(2) - 6$$

$$\boxed{PR = 22}$$

8. U is the Midpoint of TV, $TU = 3X + 4$, and $UV = 5X - 2$. Find TU, UV, and TV.

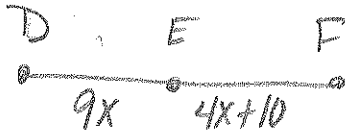


$$\begin{aligned} 3x+4 &= 5x-2 \\ -3x & \quad -3x \\ \hline 4 &= 2x-2 \\ +2 & \quad +2 \end{aligned}$$

$$\frac{6}{2} = \frac{2x}{2} \quad X=3$$

$$\begin{aligned} TU &= 3(3)+4=13 \\ UV &= 13 \\ TV &= 26 \end{aligned}$$

9. E is the midpoint of DF, $DE = 9X$, and $EF = 4X + 10$. Find DE, EF, and DF.



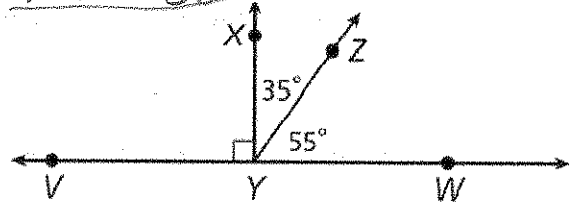
$$\begin{aligned} 9x &= 4x+10 \\ -4x & \quad -4x \end{aligned}$$

$$\frac{5x}{5} = \frac{10}{5} \quad X=2$$

$$\begin{aligned} DE &= 9(2)=18 \\ EF &= 18 \\ DF &= 36 \end{aligned}$$

10. Classify each angle as acute, right, or obtuse.

a. $\angle XYW$ b. $\angle ZYV$ c. $\angle XYZ$
 Right Obtuse Acute



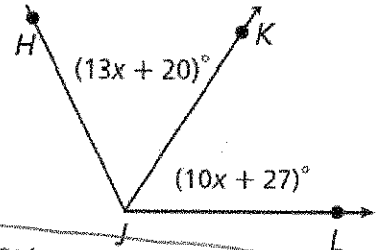
11. If $m\angle HJL = 116^\circ$, find the $m\angle HJK$.

$$13x+20 + 10x+27 = 116$$

$$\begin{aligned} 23x + 47 &= 116 \\ -47 & \quad -47 \end{aligned}$$

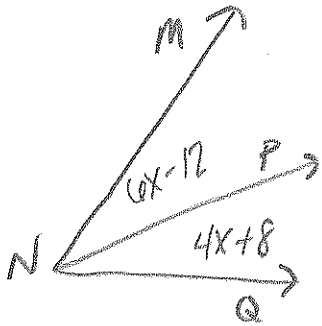
$$\frac{23x}{23} = \frac{69}{23}$$

$$X=3$$



$$m\angle HJK = 13(3)+20 = 59^\circ$$

12. \overline{NP} bisects $\angle MNQ$, $m\angle MNP = (6x - 12)^\circ$, and $m\angle PNQ = (4x + 8)^\circ$. Find $m\angle MNQ$.



$$6x-12 = 4x+8 \quad (\text{Def. of Bisector})$$

$$\begin{aligned} -4x & \quad -4x \\ \hline 2x-12 &= 8 \\ +12 & \quad +12 \end{aligned}$$

$$\frac{2x}{2} = \frac{20}{2}$$

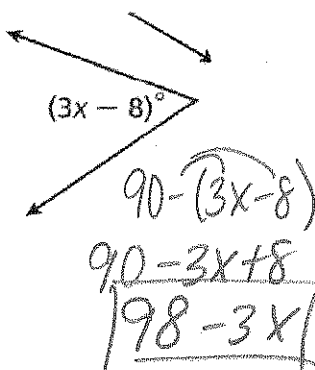
$$X=10$$

$$m\angle MNQ = 2(m\angle MNP)$$

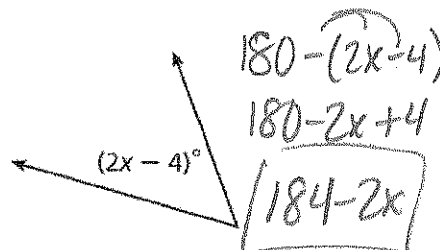
$$m\angle MNQ = 2(6(10)-12)$$

$$m\angle MNQ = 2(48) = 96^\circ$$

13. Find the complement.



14. Find the Supplement



15. Find the complement.

