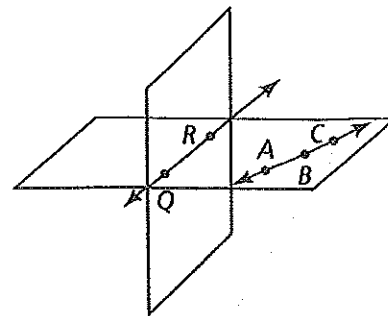


Use the diagram to give an example of each of the following using proper NOTATION!

1. Line (name the same line 2 different ways if possible) _____
2. Ray (name the same ray 2 different ways if possible) _____
3. Segment (name the same segment 2 different ways if possible) _____
4. Intersection of the 2 planes shown _____
5. Intersection of plane QRA and line BC _____
6. 3 collinear points _____
7. 3 noncollinear points _____
8. A pair of opposite rays _____



Draw a sketch and label as needed. Do the best that you can with the drawings.

9. Three collinear points A , B , and C .

10. \overleftrightarrow{MN} intersecting \overleftrightarrow{AB} at point R .

11. Coplanar points W , X , Y , and Z .


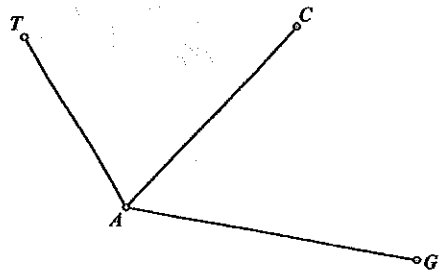
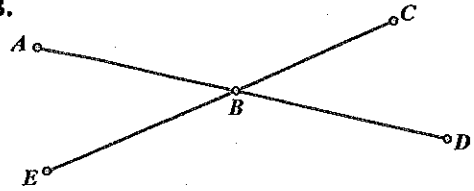
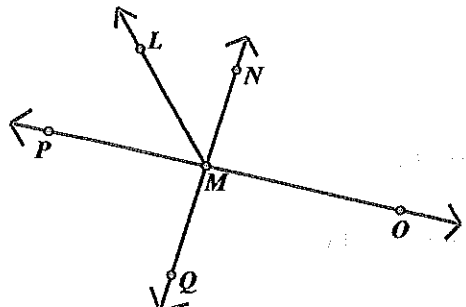
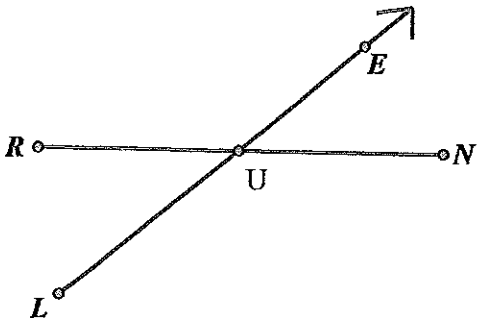
12. Collinear rays, \overrightarrow{JK} and \overrightarrow{JC}

13. ray AB bisecting $\angle DAT$

14. Linear pair with $\angle FUN$ and $\angle NUR$

15. perpendicular bisector of segment XY

16. Adjacent complementary angles

DIAGRAM	GIVEN INFORMATION	EQUATION	X =	FIND:
<p>16.</p> 	<p>$AB = 14$ $AC = 42$ $BC = x$</p>		<p>X =</p>	<p>BC = _____</p>
<p>17.</p> 	<p>$\angle TAC \cong \angle CAG$ $m\angle TAC = x + 20^\circ$ $m\angle TAG = 3x - 10$</p>		<p>X =</p>	<p>$m\angle TAG =$ _____</p>
<p>18.</p> 	<p>$m\angle ABC = 20x + 24$ $m\angle CBD = 10x + 6$</p>		<p>X =</p>	<p>$m\angle EBD =$ _____ $m\angle CBD =$ _____</p>
<p>19.</p> 	<p>$\angle NMO$ is a right \angle $m\angle LMN = 6x - 15$ $m\angle LMO = 13x + 5$</p>		<p>X =</p>	<p>$m\angle LMN =$ _____ $m\angle PML =$ _____</p>
	<p>\overline{LE} bisects \overline{RN} (so point U is the _____ of \overline{RN}) $RU = 7x + 12$ $NR = 16x - 20$</p>		<p>X =</p>	<p>$RU =$ _____ $UN =$ _____ $NR =$ _____</p>

Decide whether the statement is *true* or *false*. Briefly explain your answer.

21. Lines have endpoints.

22. Planes have edges.

23. Three lines that intersect at the same point must all be in the same plane.

24. Two planes may intersect a third plane without intersecting each other.

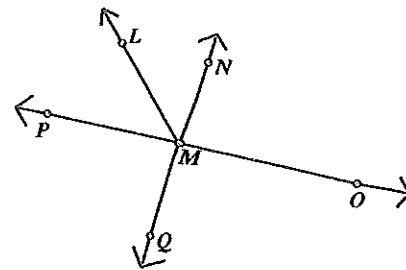
Complete the following using the diagram at right;

25. Angle addition postulate

$$m\angle LMN + \underline{\hspace{2cm}} = m\angle LMO$$

26. Segment addition postulate

$$PM + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$



27. Circle the 4 expressions that make sense. (one from each column)

$$AB \cong CD$$

$$\overline{XY} = 12 \text{ cm}$$

$$m\angle FEG = 32^\circ$$

$$m\angle ABC \cong m\angle DEF$$

$$\overline{AB} \cong \overline{CD}$$

$$XY = 12 \text{ cm}$$

$$\angle FEG = 32^\circ$$

$$m\angle ABC = m\angle DEF$$

Complete the following sentences.

28. Two distinct planes intersect at a _____.

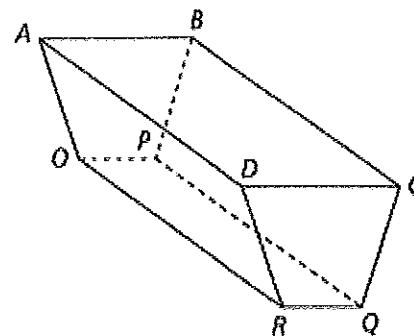
29. Through any _____, there is exactly one line.

Use the figure at the right to answer the following questions.

30. Are points O , B , R , and C coplanar?

31. Name three lines that intersect at P .

32. What is the intersection of plane AOB and plane POR ? _____



Draw a sketch of each of the following. Make up values for any angles or segments you draw, and mark your diagrams with congruence marks whenever appropriate.

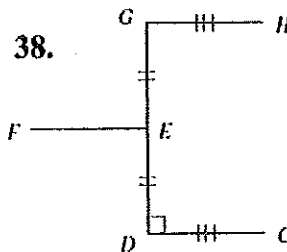
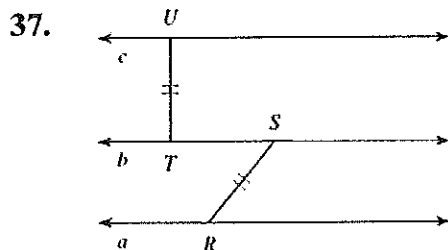
33. acute angle ABC

34. Obtuse angle SBT

35. \overline{YG} with midpoint A

36. Straight angle XYZ

Using proper notation, list all information given by the marks on the diagram.



2. The second part of the document is a list of names.

3. The third part of the document is a list of names.

4. The fourth part of the document is a list of names.

5. The fifth part of the document is a list of names.

6. The sixth part of the document is a list of names.

7. The seventh part of the document is a list of names.

8. The eighth part of the document is a list of names.

9. The ninth part of the document is a list of names.

10. The tenth part of the document is a list of names.

11. The eleventh part of the document is a list of names.


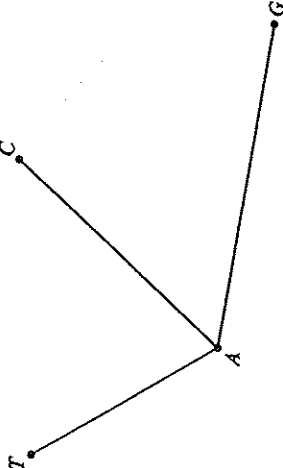
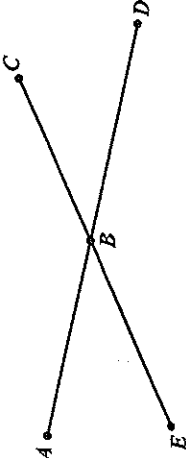
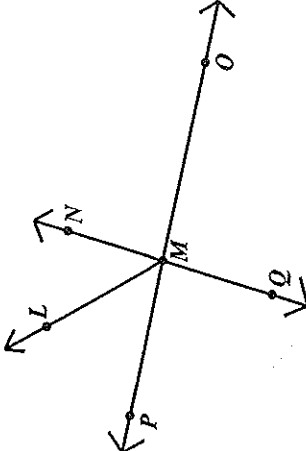
12. The twelfth part of the document is a list of names.

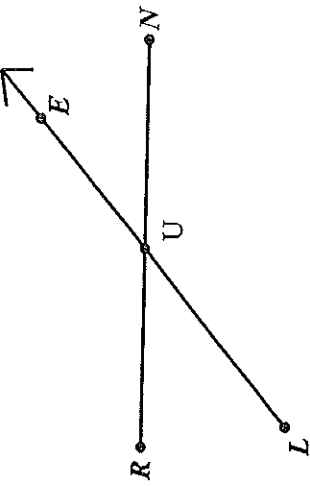
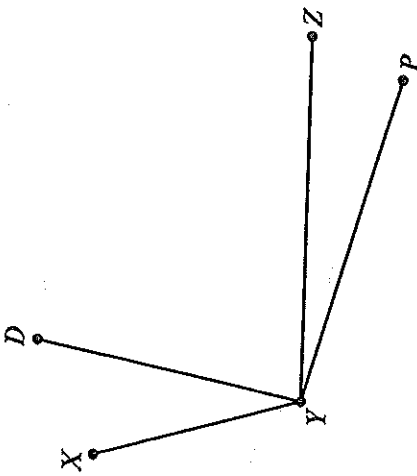
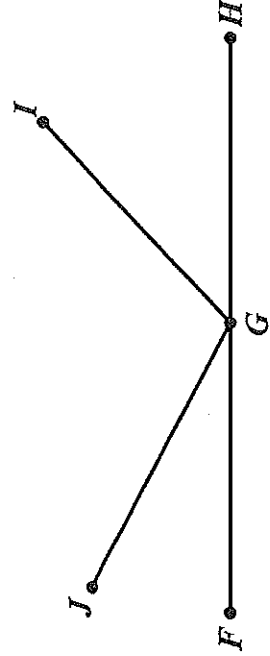
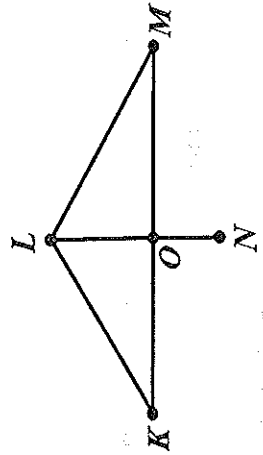
13. The thirteenth part of the document is a list of names.

14. The fourteenth part of the document is a list of names.

15. The fifteenth part of the document is a list of names.

Label and mark each diagram with the given INFORMATION, then write the EQUATION that matches the diagram. SOLVE for x, then find the missing values.

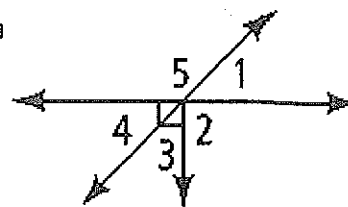
DIAGRAM	GIVEN INFORMATION	EQUATION	X =	FIND:
	BC is twice as long as AB $AC = 42$	<u>Reason:</u>	$X =$	$AB =$ _____ $BC =$ _____
	\overline{AC} is the angle bisector of $\angle TAG$ $m\angle TAC = 28^\circ$ $m\angle TAG = 3x - 10$	<u>Reason:</u>	$X =$	$m\angle TAG =$ _____
	$m\angle ABE = 20x + 24$ $m\angle EBD = 30x + 6$	<u>Reason:</u>	$X =$	$m\angle EBD =$ _____ $m\angle CBD =$ _____
	$\overline{NQ} \perp \overline{PO}$ $m\angle LMN = 6x - 15$ $m\angle LMO = 13x + 5$	<u>Reason:</u>	$X =$	$m\angle LMN =$ _____ $m\angle PML =$ _____

	<p>\overline{LE} bisects \overline{RN} $RU = 7x + 12$ $NR = 16x - 20$</p>	<p>Reason:</p>	<p>$X =$</p> <p>$RU =$ _____ $UN =$ _____ $NR =$ _____</p>
	<p>$\angle XYD \cong \angle ZYP$ $m\angle XYD = 3x$ $m\angle DYZ = 50^\circ$ $m\angle XYP = 22x - 46$</p>	<p>Reason:</p>	<p>$X =$</p> <p>$m\angle XYD =$ _____ $m\angle XYP =$ _____</p>
	<p>$\angle FGJ$ and $\angle IGH$ are complementary angles $m\angle IGH = 3x + 2$ $m\angle FGJ = x$</p>	<p>Reason:</p>	<p>$X =$</p> <p>$m\angle IGH =$ _____ $m\angle JGI =$ _____</p>
	<p>$KO = OM$ $\overline{LO} \perp \overline{KM}$ $KL = x + 2$ $LM = 3x - 6$</p>	<p>Reason:</p>	<p>$X =$</p> <p>LN is the _____ of KM $LM =$ _____</p>

Geometry 22: Practice with (1.2→) 1.5

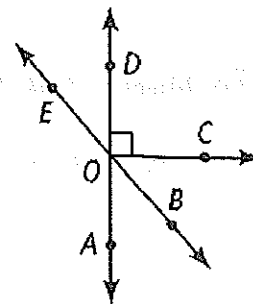
1. Use the diagram at the right to decide if each is true or false. Explain

- a. $\angle 2$ and $\angle 5$ are adjacent angles.
- b. $\angle 1$ and $\angle 4$ are vertical angles.
- c. $\angle 4$ and $\angle 5$ are complementary.



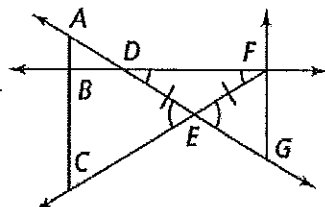
2. Name an angle or angles in the diagram described by each of the following.

- a. complementary to $\angle BOC$
- b. supplementary to $\angle DOB$
- c. adjacent to $\angle AOC$



3. For the following exercises, can you make each conclusion from the information in the diagram below? Explain.

a. $\angle BCE \cong \angle FGE$



b. $\overline{FE} \cong \overline{EG}$

c. $\overline{DE} \cong \overline{EF}$

d. $\angle ADB$ and $\angle FDE$ are vertical angles

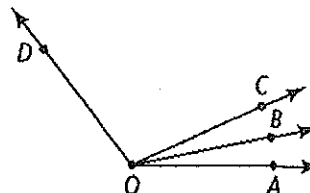
4. Sketch the following situations with appropriate tick marks.

a. $\angle ABC$ and $\angle CBD$ form a linear pair.

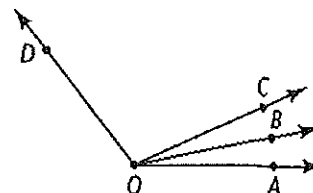
b. \overline{XY} bisects $\angle WXZ$

c. $\angle LMO$ and $\angle PMQ$ are vertical angles

5. Using the diagram below, given that $m\angle AOB = 4x - 1$; $m\angle BOC = 2x + 15$; $m\angle AOC = 8x + 8$. Solve for x . Find the angle measures.



6. Using the diagram below, given that \overline{OB} bisects $\angle COA$. Given that $m\angle AOB = 3x + 8$ and $m\angle BOC = 2x + 14$. What are $m\angle AOB$ and $m\angle AOC$?



7. $\angle JKL$ and $\angle MNP$ are complementary; $m\angle JKL = 2x - 3$ and $m\angle MNP = 5x + 2$. What are $m\angle JKL$ and $m\angle MNP$? Show a check for your answer.

8. \overline{QS} bisects $\angle PQR$. Solve for x and find $m\angle PQR$. *Hint: Draw a diagram*

a. $m\angle PQS = 3x$; $m\angle SQR = 5x - 20$

b. $m\angle PQS = 2x + 10$; $m\angle PQR = 5x - 3$

9. The measure of one angle is 38° less than the measure of its *complement*. Find the measure of each angle.

10. If $\angle 1$ and $\angle 2$ are form a linear pair. $m\angle 1$ is 12 more than 6 times the $m\angle 2$, find $m\angle 1$ and $m\angle 2$.

11. If $\angle 1$ and $\angle 2$ are complementary, $m\angle 1 = x^2 - 2x$ and $m\angle 2 = 27^\circ$. Find x and $m\angle 1$. Check your answers!