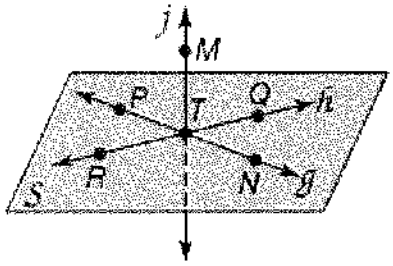
1.1/1.2 Points, Lines, and Planes and Linear Measure Name _____
Geometry

New Term	Definition	Symbol
Point	A specific location in space. Is an undefined term – it has only been explained using examples and descriptions. Does not have any actual size.	
Line	Determined by at least_____ points. Extends indefinitely. Undefined term. No thickness or width.	
Plane	A flat surface that extends indefinitely in all directions. Undefined term. No thickness.	
Space	A boundless, three-dimensional set of all points.	
Line Segment	A part of a line that consists of 2 points and all the points _____ them.	
Collinear points	Points that lie on the same _____.	
Betweenness of Points	Point Y is between points X and Z if and only if (iff) X, Y, and Z are collinear and XY + YZ = XZ	
Coplanar points	Points that lie in the same plane.	
Ray	An initial point A and all the points on $\overleftrightarrow{AB}$ going away from A.	
Intersect	Two or more geometric figures intersect if they have one or more _____ in common.	
Congruent segments	Segments that have the same measure.	

Ex. 1: Use the figure at right to answer the following questions:



a) Name a line that contains point R
b) What is another name for line g?
c) Name a point not on $\overleftrightarrow{PN}$.
d) Name the plane containing lines h and g.
e) List three points that are coplanar.

Ex. 2: Draw and label a figure for each relationship.

a) $\overleftrightarrow{AB}$ is in plane Q and contains point J but does not contain point K.

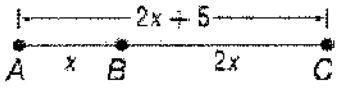
b) $\overleftrightarrow{ST}$ intersects $\overleftrightarrow{AB}$ at P.

c) Point X is collinear with points A and P.

d) Point Y is not collinear with points T and P.

e) Point F lies on $\overleftrightarrow{ST}$.

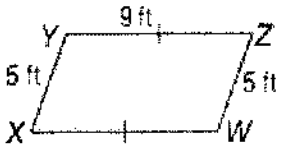
Ex. 3: Find x and AC



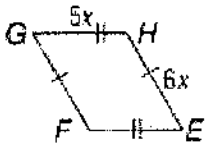
Ex. 4 Find x and RS if S is between R and T, RS=2x, ST= 5x +4, and RT = 32.

Ex 5: Determine whether each pair of segments is congruent.

$\overline{WX}$, $\overline{WZ}$



$\overline{GF}$, $\overline{FE}$

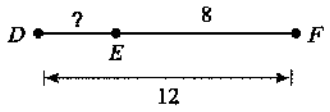


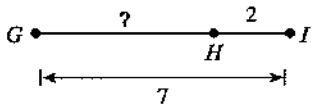
Geometry Name_____

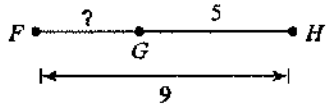
1.2 Homework (Segment Addition Postulate)

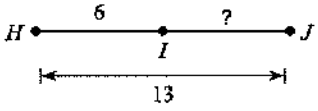
Period____

Find the length indicated.

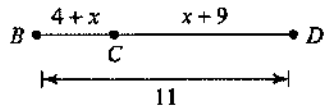
1) 

2) 

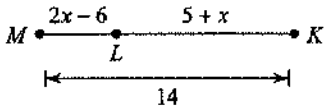
3) 

4) 

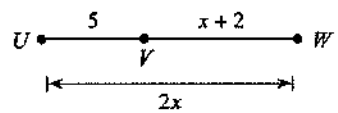
5) Find BC



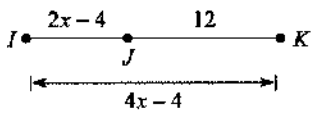
6) Find ML



7) Find VW



8) Find IJ

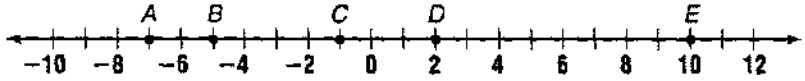


1-3 Distance and Midpoints
Geometry

Name_____
Date _____ Per. _____

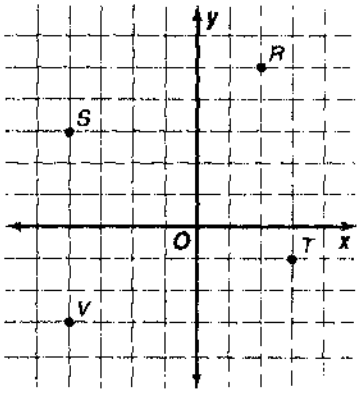
Term	Picture	Definition/Equation
Distance on a Number Line		
Pythagorean Theorem		
Distance Formula		

Refer to the number line below to find each measure.



1.) AC 2.) DE 3.) CD 4.) AE

Refer to the coordinate plane at the right to find each measure. Simplify radicals.



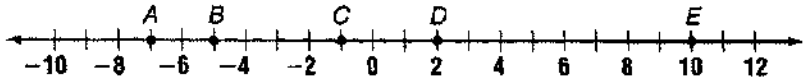
5.) RS 6.) RT

7.) RV 8.) VS

9) A(-4, 1) and B(3, -1) Find the distance between the two coordinates.

Term	Picture	Definition/Equation
Midpoint on a Number Line		
Midpoint Formula		

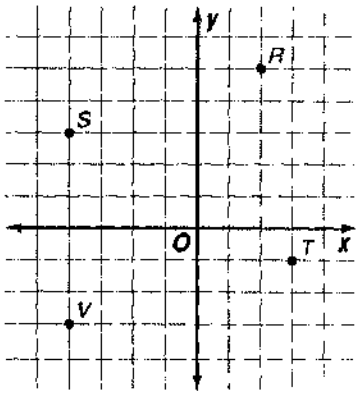
Refer to the number line below and find the midpoint of each segment.



10.) $\overline{AC}$ 11.) $\overline{BC}$ 12.) $\overline{CD}$ 13.) $\overline{AE}$

Refer to the coordinate plane at the right to find the midpoint of each segment.

14.) $\overline{RS}$ 15.) $\overline{SV}$



16.) Find the coordinates of D if E(-6, 4) is the midpoint of $\overline{DF}$ and F has coordinates (-5, -3)

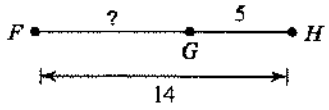
17.) Find the measure of $\overline{PR}$ if Q is the midpoint of $\overline{PR}$, and $PR = 14x + 2$ and $QR = 6 - 3x$.

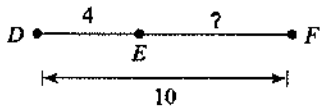
Geometry Name_____

1.2 &1.3a Review

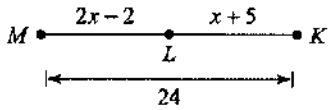
Period____

Find the length indicated.

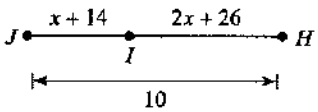
1) 

2) 

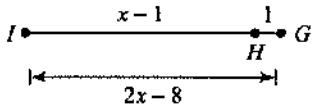
3) Find *LK*



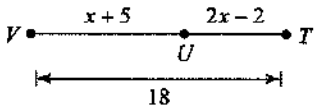
4) Find *JI*



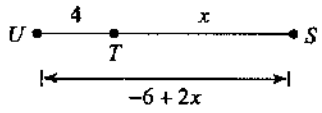
5) Find *IG*



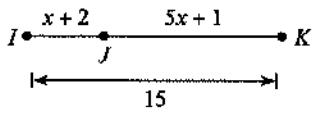
6) Find *UT*



7) Find TS



8) Find JK



Find the distance between each pair of points.

9) $(-5, 8)$, $(-1, 8)$

10) $(1, -1)$, $(2, 5)$

11) $(3, -2)$, $(-4, -2)$

12) $(-8, 5)$, $(2, 7)$

13) $(-6, 2)$, $(-5, 4)$

14) $(-1, -2)$, $(-2, 6)$

15) $(-6, -2)$, $(1, -1)$

16) $(8, 3)$, $(-1, -6)$

Geometry Name_____

1.3b Midpoint Formula

Period____

Find the midpoint of the line segment with the given endpoints.

1) $(1, 0)$, $(-4, -2)$

2) $(-3, 1)$, $(-6, -2)$

3) $(-6, -1)$, $(-4, -6)$

4) $(0, -6)$, $(1, 6)$

5) $(-6, -5)$, $(1, -4)$

6) $(-6, 3)$, $(-2, -4)$

7) $(-5, -4)$, $(5, 6)$

8) $(1, -5)$, $(3, 6)$

9) $(6, 0)$, $(-3, -1)$

10) $(0, 3)$, $(-2, -4)$

Find the distance between each pair of points.

11) $(3, 3)$, $(6, 6)$

12) $(3, 0)$, $(7, -6)$

Distance/Midpoint Practice ~ Tiny Town

Name_____

Per:_____

Please do all your work on a separate sheet of paper and show all calculations for full credit!!

Kalista and Lauren are trying to plan their weekend together and live across town from each other in Tiny Town. They are trying to be efficient about driving distances because Lauren doesn't have a car.

1) Friday night, they are planning dinner, then a movie. Which is less driving distance:

Kalista's house → Lauren's→ Chipotle→Regal Cinema

Or

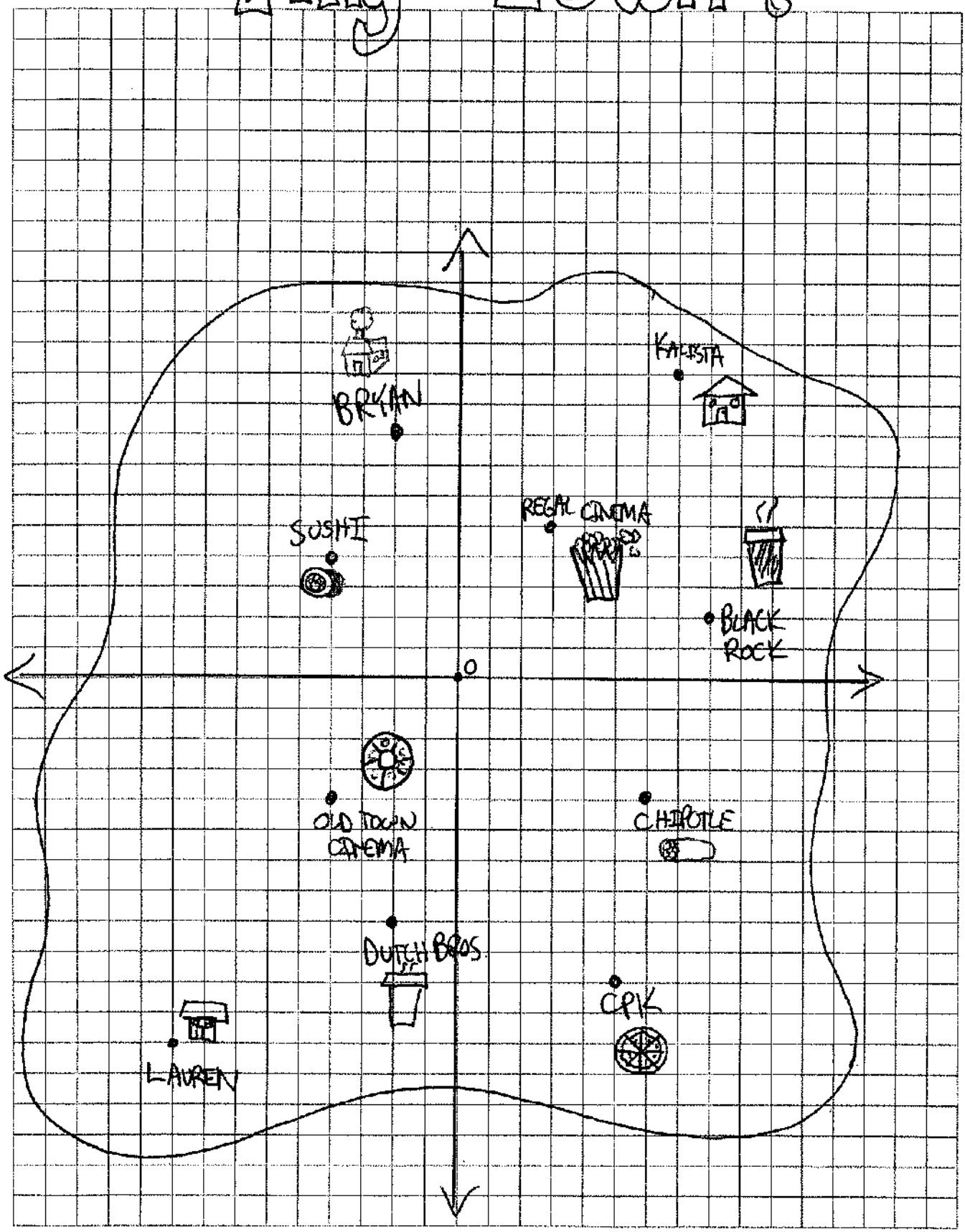
Kalista's house → Lauren's→Sushi→Old Town Cinema

2) On Saturday morning, before they meet up for coffee later (see question 3), they are planning a run/hike on the large park between their houses. They want to meet in the middle, between their houses so they ensure that they have ran/hiked the same distance. What is the coordinate of the middle point between their houses?

3) They are planning a coffee date Saturday late morning after their run/hike after they go home and shower. Lauren is not a huge fan of Black Rock (Kalista's favorite) but loves Dutch. Lauren said she is willing to walk to Dutch and save Kalista driving time if they can do Dutch and not Black Rock. How many miles are saved if Kalista just meets Lauren at Dutch, vs. going to pick Lauren up and go to Black Rock?

4) Sunday lunch plans involve CPK and Lauren's mom is willing to drive her. Kalista wants to invite Bryan, but needs to pick him up. How much further does Kalista have to drive to get Bryan then head to CPK than Lauren's mom has to drive to just CPK?

Tiny Town!

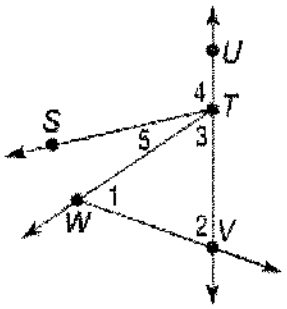

BRYAN
KAELISTA
SUSHII
REGAL CINEMA
BLACK ROCK
O
OLD TOWN CINEMA
CHIPOTLE
DUTCH BROS
CPK
LAUREN

1-4 Angle Measures
Geometry

Name_____
Date _____ Per. _____

Term	Picture	Definition/Equation
Angle		Two noncollinear rays that have a common endpoint.
Vertex		The common endpoint of an angle.
Right Angle		An angle with a degree measure of _____.
Acute Angle		An angle with a degree measure _____ than 90.
Obtuse Angle		An angle with a degree measure _____ than 90.
Interior		A point that does not lie on the angle itself and is inside the rays of the angle
Exterior		A point that does not lie on the angle itself and is outside the rays of the angle
Side		The rays of the angle.
Ray		Part of a line
Angle Bisector		A ray that divides an angle into two _____ angles.
Degree		A unit of measure used in measuring angles and arcs.
Opposite Ray		Two rays $\overrightarrow{BA}$ and $\overrightarrow{BC}$ such that B is _____ A and C.

For questions 1-12, refer to the figure at right.
Name the vertex of each angle.



1. $\angle 4$ 2. $\angle 1$

3. $\angle 2$ 4. $\angle 5$

Name the sides of each angle.

5. $\angle 4$ 6. $\angle 5$

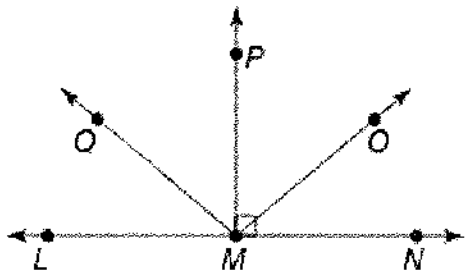
7. $\angle STV$ 8. $\angle 1$

Write another name for each angle

9. $\angle 3$ 10. $\angle 4$

11. $\angle WTS$ 12. $\angle 2$

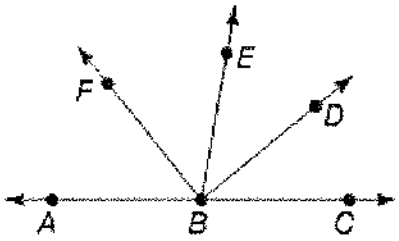
For questions 13-16, refer to the figure at right.
Classify each angle as *right, acute,* or *obtuse.*



13. $\angle NMP$ 14. $\angle OMN$

15. $\angle QMN$ 16. $\angle QMO$

In the figure at right, $\overrightarrow{BA}$ and $\overrightarrow{BC}$ are opposite rays, $\overrightarrow{BD}$ bisects $\angle EBC$.



17. If $m\angle EBD = 4x + 16$ and $m\angle DBC = 6x + 4$ find $m\angle EBD$.

18. If $m\angle EBD = 4x - 8$ and $m\angle EBC = 5x + 20$ find the value of x and $m\angle EBC$.

Geometry

Name_____ ID: 1

1.4b Angle Measure

Date_____ Period____

Draw an angle with the given measurement.

1) 118°

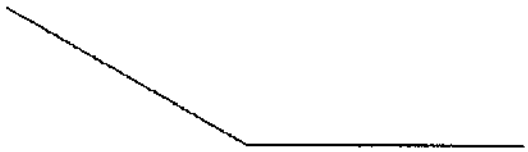
2) 128°

3) 48°

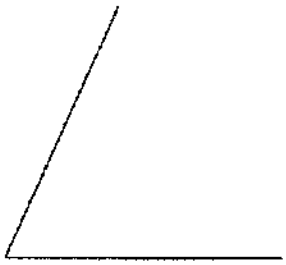
4) 20°

Find the measure of each angle to the nearest degree.

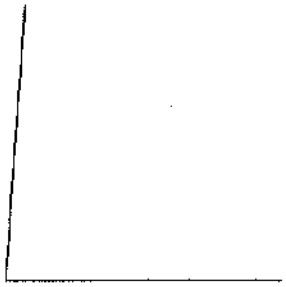
5)



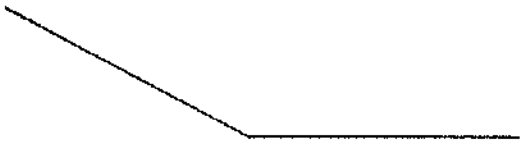
6)



7)



8)

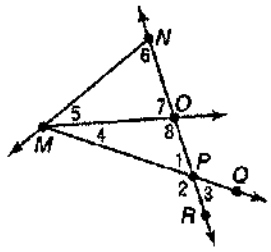


NAME _____ DATE _____ PERIOD _____

1-4 Practice

Angle Measure

For Exercises 1–10, use the figure at the right.



Name the vertex of each angle.

1. $\angle 5$
2. $\angle 3$
3. $\angle 8$
4. $\angle NMP$

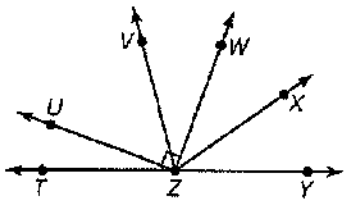
Name the sides of each angle.

5. $\angle 6$
6. $\angle 2$
7. $\angle MOP$
8. $\angle OMN$

Write another name for each angle.

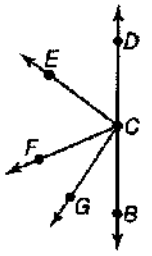
9. $\angle QPR$
10. $\angle 1$

Classify each angle as *right*, *acute*, or *obtuse*. Then use a protractor to measure the angle to the nearest degree.



11. $\angle UZW$
12. $\angle YZW$
13. $\angle TZW$
14. $\angle UZT$

ALGEBRA In the figure, $\overrightarrow{CB}$ and $\overrightarrow{CD}$ are opposite rays, $\overrightarrow{CE}$ bisects $\angle DCF$, and $\overrightarrow{CG}$ bisects $\angle FCB$.



15. If $m\angle DCE = 4x + 15$ and $m\angle ECF = 6x - 5$, find $m\angle DCE$.
16. If $m\angle FCG = 9x + 3$ and $m\angle GCB = 13x - 9$, find $m\angle GCB$.
17. **TRAFFIC SIGNS** The diagram shows a sign used to warn drivers of a school zone or crossing. Measure and classify each numbered angle.

1-5 Angle Relationships Name_____
Geometry

Term	Picture	Definition
Adjacent Angles		Two angles that lie in the same plane and have common vertex and a common side, but no common interior points.
Vertical Angles		Two nonadjacent angles formed by two intersecting lines. **Vertical angles are _____!!**
Linear Pair		A pair of adjacent angles with noncommon sides that are opposite rays.
Complementary Angles		Two angles with measures that have a sum of _____.
Supplementary Angles		Two angles with measures that have a sum of _____.

Practice

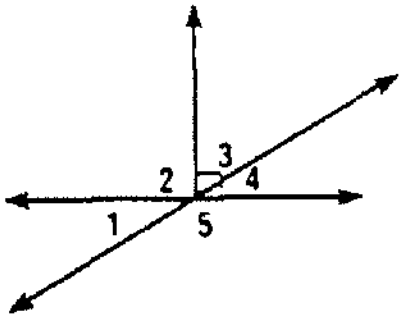
Identify each pair of angles as adjacent, vertical, complementary, supplementary, and/or as a linear pair.

1.) $\angle 1$ and $\angle 2$

2.) $\angle 1$ and $\angle 4$

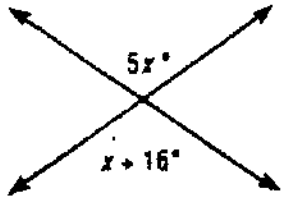
3.) $\angle 3$ and $\angle 4$

4.) $\angle 1$ and $\angle 5$

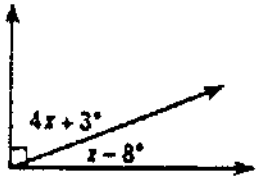


Find the value of x.

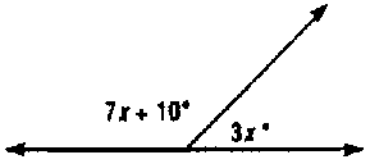
5.)



6.)

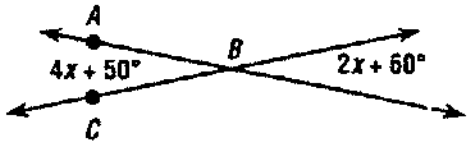


7.)

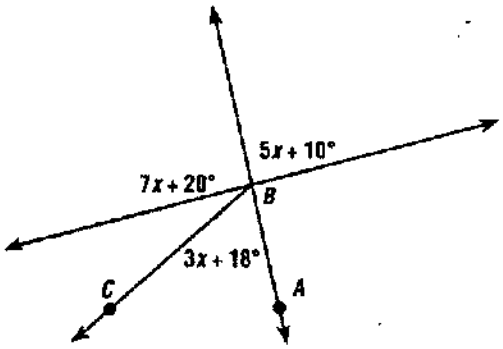


Find the value of x and $m\angle ABC$.

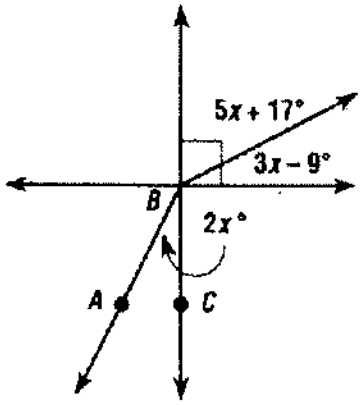
8.)



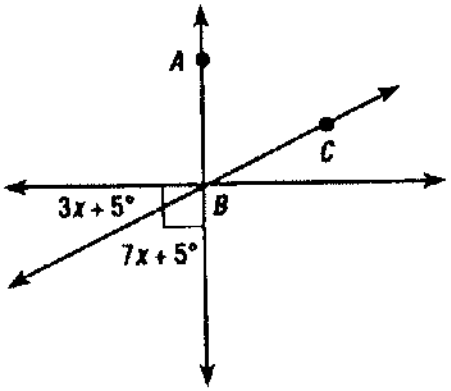
9.)



10.)



11.)



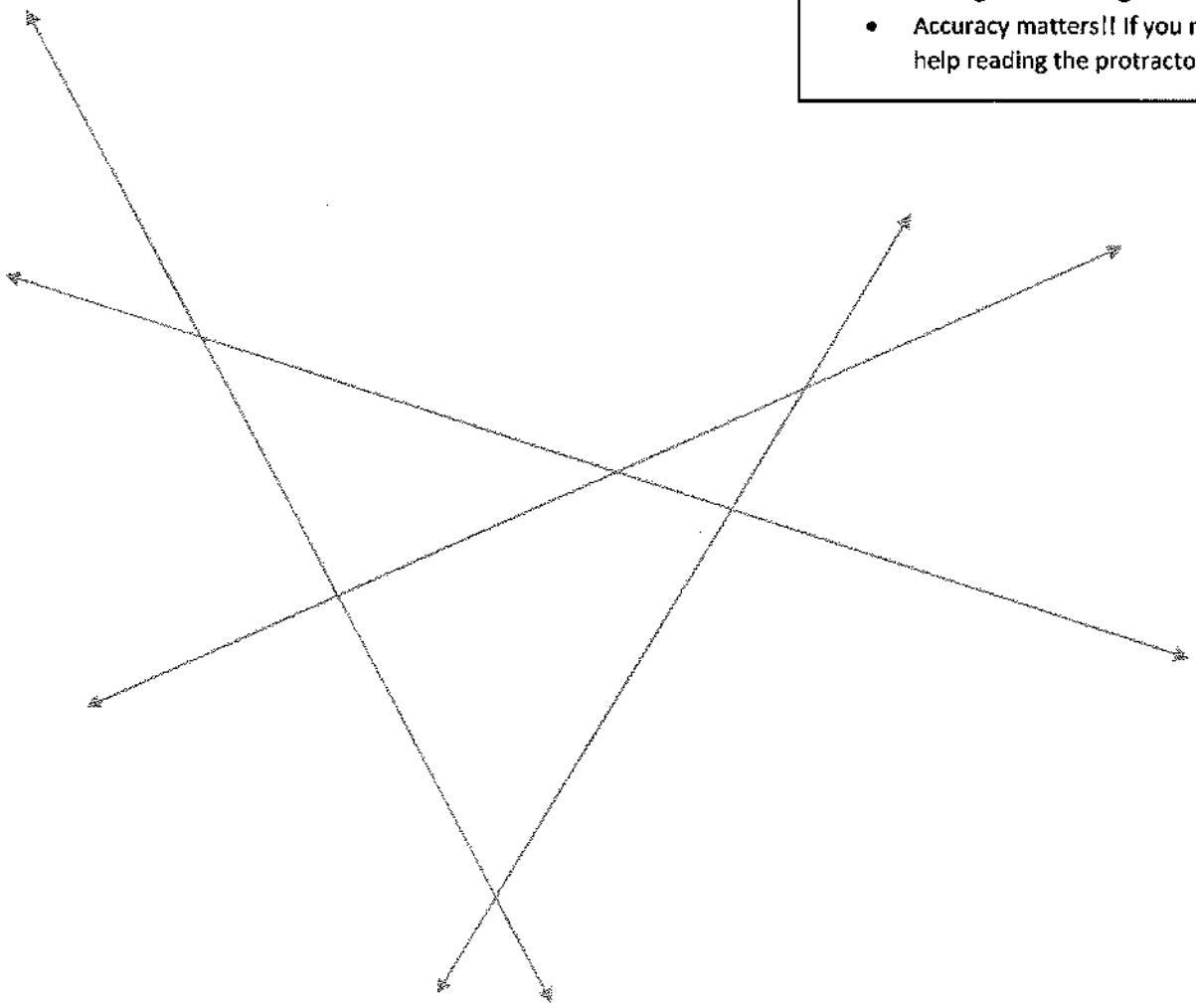
1.5 ~ Angle Discovery

At your station, you have a display of tape. The drawing below should be a fairly accurate rendition of what you see on your table.

- You and EACH GROUP MEMBER are to use a protractor to measure EVERY ANGLE on the table, write them on the table using white board pens, and then write your findings on this page. Please make sure you agree with each other!!
- Once you are done, please discuss and record any observations you made about these angles in the "observation" section.

Helpful hints:

- All angles of a triangle add up to 180°
- Accuracy matters!! If you need to, ask for help reading the protractor!



Observations:

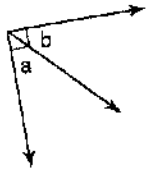
Geometry Name_____ ID: 1

1.5 Angle Relations Practice

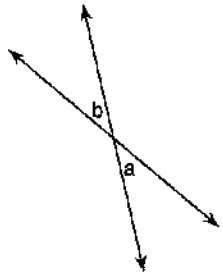
Date_____ Period____

Name the relationship: complementary, linear pair, vertical, or adjacent.

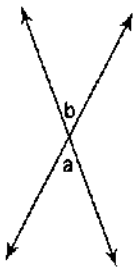
1)



2)



3)



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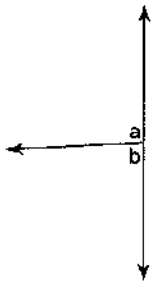

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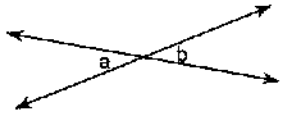
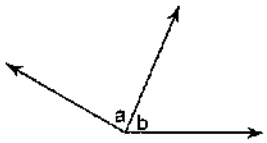


6)



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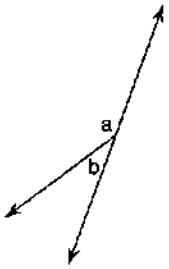
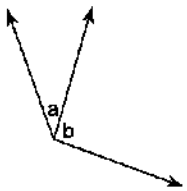
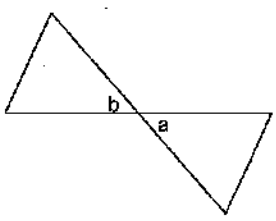


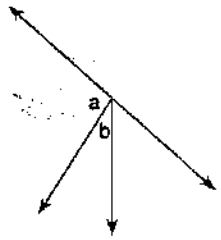
8)



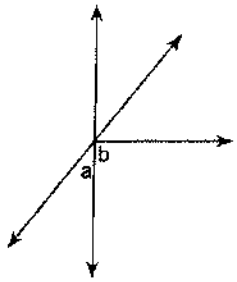
9)



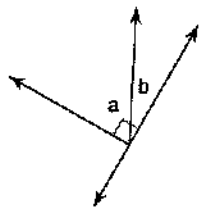
10)



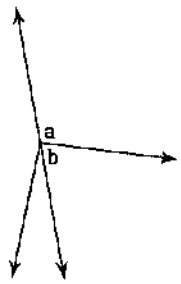
11)



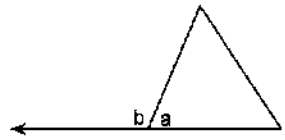
12)



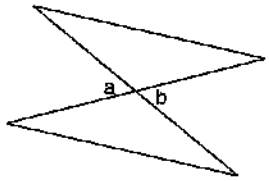
13)



14)



15)



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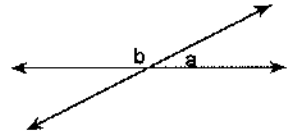
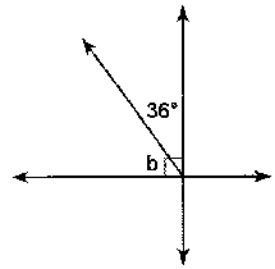


Find the measure of angle b.

17)



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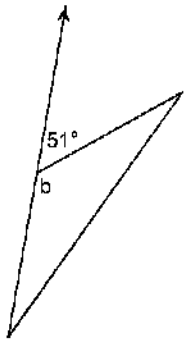

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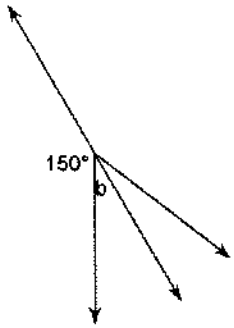

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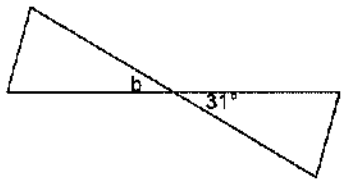

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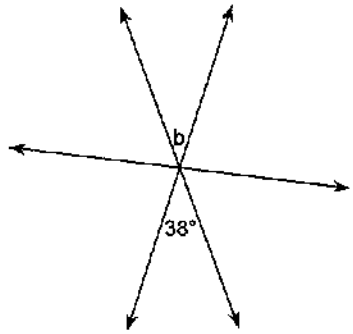

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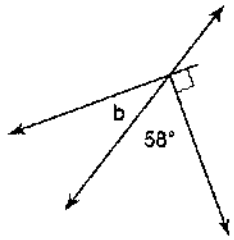

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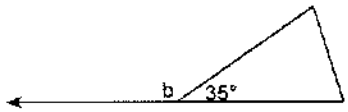
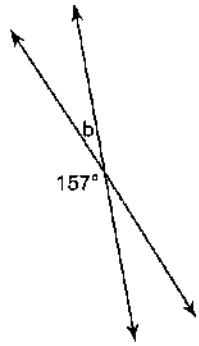
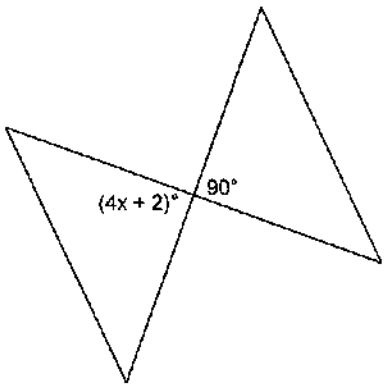


24)

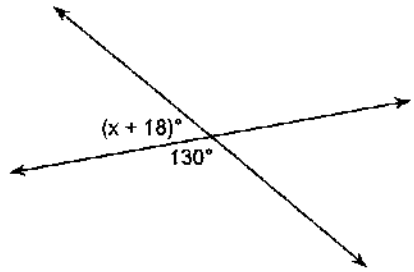


Find the value of x.

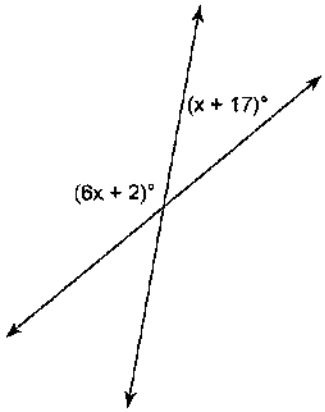
25)



26)



27)



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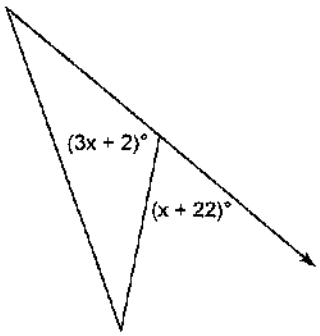
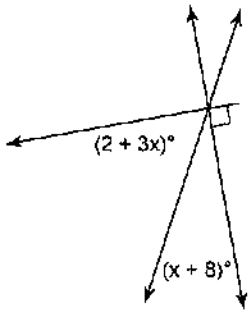


29)



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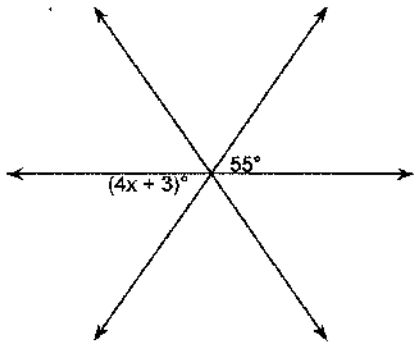
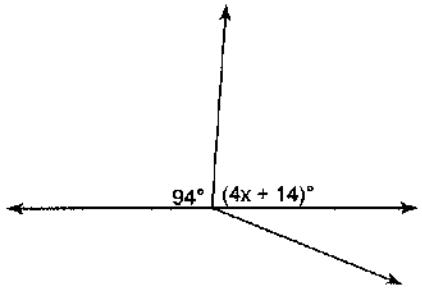
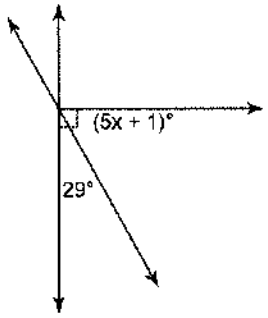


31)



32)



Geometry
Review for Chapter 1

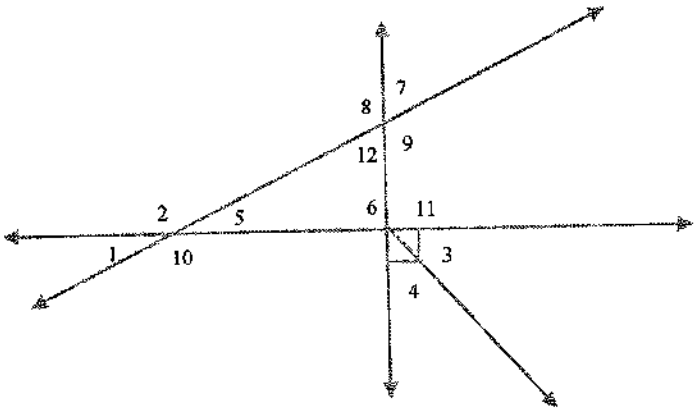
Name _____
Period_____

1) Draw line AB intersecting ray XY at point P.

2) Draw segment CD intersecting plane M at point R

3) Draw two lines that are coplanar but not intersecting.

Use the diagram below to answer questions #4-9.



4) Name an angle vertical to < 1

5) Name an angle supplementary to < 7

6) Name a pair of complementary angles.

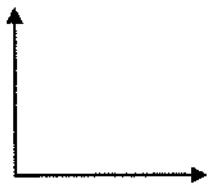
7) Name an angle adjacent to < 10

8) Name an angle congruent to < 8

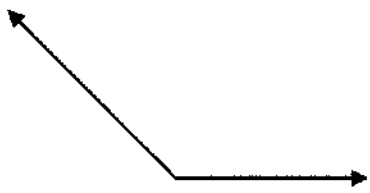
9) Name a linear pair of angles.

Classify the following angles as acute, right, obtuse or straight.

10)



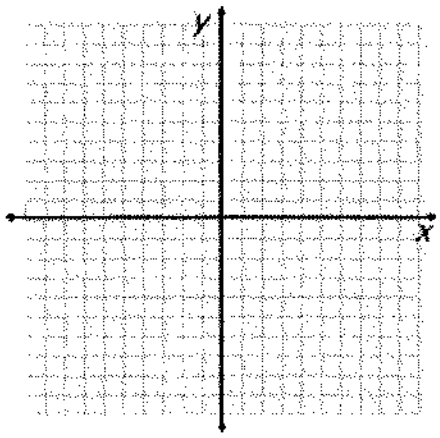
11)



10. _____

11._____

Find the length of the segment and the midpoint of the segment with the given endpoints.



12) $\overline{AB}$ A (-4, 5), B (6, -1)

12. Length_____

Midpoint_____

13) $\overline{CD}$ C (0, 3), D (8, 1)

13. Length _____

Midpoint_____

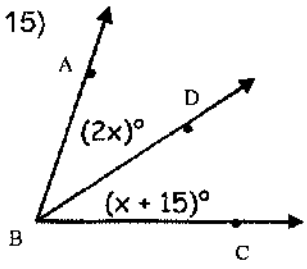
14) Point B lies between points A and C on segment AB. AB = 12 inches, BC= 4x + 5 inches and AC = 45 inches.

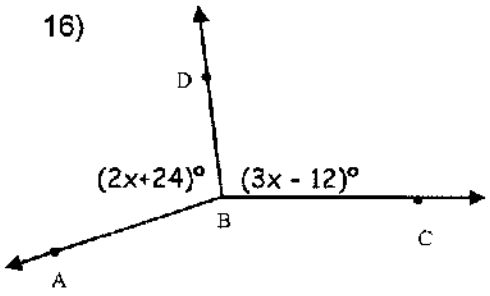
Draw and label: _____

What is the value of X?

What is the length of BC?

If $\overrightarrow{BD}$ bisects $\angle$ABC, solve for x.

15) 

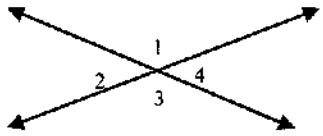
16) 

15._____

16._____

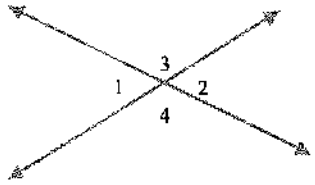
Find the missing angle measures (each question is a different scenario)

17) If m$\angle$2 = 25°, then m$\angle$1 = _____.



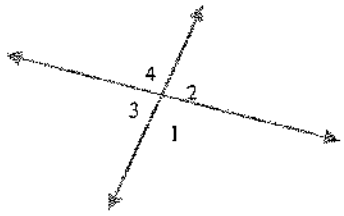
17. _____

18) If m$\angle$3 = 95°, then m$\angle$4 = _____.



18. _____

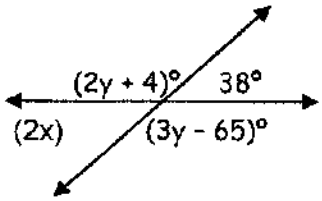
19) If m$\angle$4 = 130°, then m$\angle$2 = _____.



19. _____

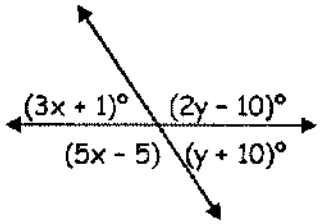
Find the value of each variable.

20)



20. y = _____

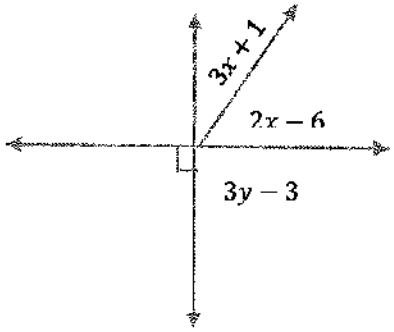
21)



21. x = _____

y = _____

22)



22. x = _____

y = _____

Geometry Ch. 1 Review NAME:_____

Show your work for credit!!! Good Luck ☺

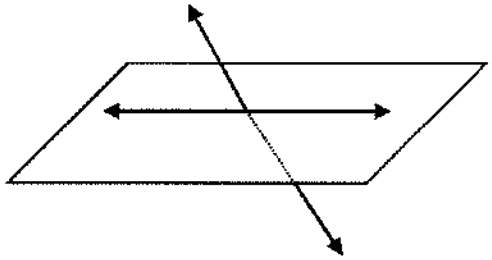
Solve for x:

1) $3x-2 = 2(x - 2)$ 2) $3(x - 2)=9(x - 2)$

1. _____

2. _____

Use the diagram to name identify the correct points:



3) Three collinear points

4) Three noncollinear points

5) Four noncoplanar points

3. _____

4. _____

5. _____

Draw the following:

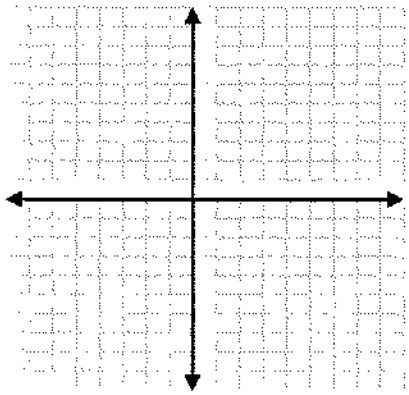
6) right angle ABC

7) $\overrightarrow{CD}$ intersecting $\overleftrightarrow{XY}$

6._____

7._____

Find the length of the segment (leave in simple radical form):



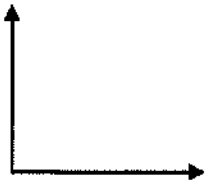
8) $\overline{AB}$

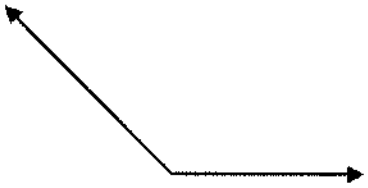
9) $\overline{CD}$

8. _____

9. _____

Measure the following angles with a protractor

10) 

11) 

10. _____

11. _____

Find the coordinates of the midpoints of a segment with the given endpoints.

12) C (2, 9)
D (-2, -2)

13) T (-3, -3)
P (9, -15)

12. _____

13. _____

Given one point P and the midpoint M, Find the other endpoint O, of a segment

14) P (0, -4)
M (2, -2)

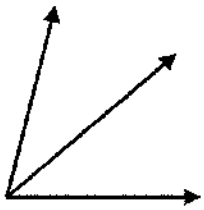
14b) P (5,6)
M(10,-2)

14. _____

14b._____

Let $\overrightarrow{EF}$ be the angle bisector of $\angle TEA$. Find the angles.

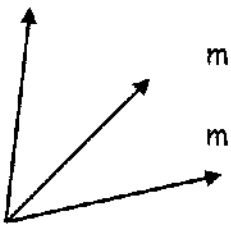
15)



$m\angle TEF =$

$m\angle AEF =$

16)



$m\angle TEF =$

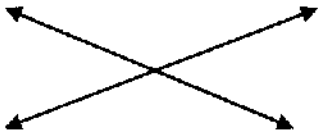
$m\angle TEA =$

15. _____

16. _____

Find the missing angle measures (each question is a different scenario)

19) If $m\angle 1 = 25°$, then $m\angle 3 =$ _____.



19. _____

20) If $m\angle 2 = 95°$, then $m\angle 1 =$ _____.

20. _____

21) If $m\angle 4 = 130°$, then $m\angle 2 =$ _____.

21. _____

Assume $\angle A$ and $\angle B$ are complementary and $\angle B$ and $\angle C$ are supplementary.

22) If $m\angle A = 52°$, then $m\angle B =$ _____, and $m\angle C =$ _____.

22. $\angle B$ _____

$\angle C$ _____