Chapter 1 Checklist: Tools of Geometry Your Name:_____

You MUST complete all of these packet items in order to take your test!

_____1-2 Notes (1 Point)

_____ Standardized Test Prep 1-2

_____ 1-2 Quiz (6 Points)

_____1-3 Notes (1 Point)

_____ Standardized Test Prep 1-3

_____ 1-3 Quiz (5 Points)

_____1-4 Notes (1 Point)

_____ Standardized Test Prep 1-4

_____ 1-4 Quiz (5 Points)

_____1-5 Notes (1 Point)

_____ Standardized Test Prep 1-5

_____ 1-5 Quiz (7 Points)

_____1-7 Notes (1 Point)

_____ Standardized Test Prep 1-7

_____ 1-7 Quiz (4 Points)

_____1-6 Construction Attempts (1 Point)

_____1-6 Quiz (3 Points)

_____ Construction Sheet

_____ Geometer's Sketchpad Activity

_____ Naming Geometric Figures Worksheet

_____ 1-3 Games and Puzzles Activity

_____ Angle Addition Postulate Worksheet

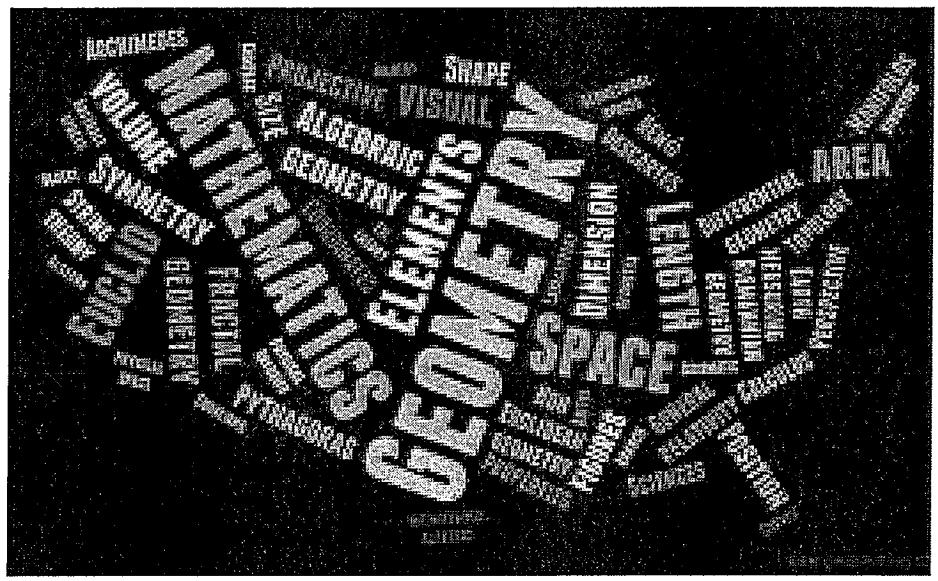
_____ Vertical Angles and Linear Pairs Worksheet

_____ 1-4 Games and Puzzles Activity

_____ Chapter Project (8 Points)

_____ Chapter 1 Vocabulary Test (10 Points)

_____ Chapter 1 Test (30 Points (3 Constructions and 27 Multiple Choice))



Chapter 1: Tools of Geometry Vocabulary List

Point

Line

Plane

Collinear

Coplanar

Segment

Ray

Angle

Vertex

Postulate (Axiom)

Coordinate

Congruent

Bisector

Midpoint

Segment Addition Postulate

Angle Addition Postulate

Right Angle

Straight Angle

Acute Angle

Obtuse Angle

Adjacent Angles

Vertical Angles

Complementary Angles

Supplementary Angles

Linear Pair

Name _____
Teacher _____
Class/Period _____
Date _____

Topic: Tools of Geometry **Patch High School~Home of the Panther**

1.2: Points, Lines, Planes

Summary:

Name _____ Class _____ Date _____

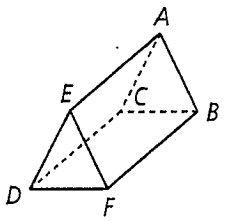
1-2 Standardized Test Prep

Points, Lines, and Planes

Multiple Choice

For Exercises 1–7, choose the correct letter.

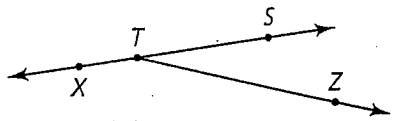
1. Look at the figure at the right. Where do planes *ACE* and *BCD* intersect?



   (A) $\overleftrightarrow{AD}$ (C) $\overleftrightarrow{CB}$

   (B) $\overleftrightarrow{CD}$ (D) $\overleftrightarrow{BF}$

2. Which of the following are opposite rays?



   (F) $\overrightarrow{TS}$ and $\overrightarrow{XS}$ (H) $\overrightarrow{TS}$ and $\overrightarrow{TZ}$

   (G) $\overrightarrow{TX}$ and $\overrightarrow{TZ}$ (I) $\overrightarrow{TS}$ and $\overrightarrow{TX}$

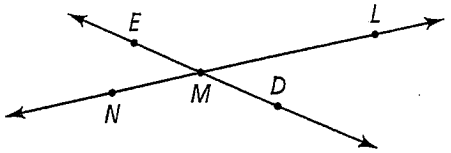
3. What is the smallest number of distinct points that can define a plane?

   (A) 2 (B) 3 (C) 4 (D) infinite

4. At how many points can two distinct lines intersect?

   (F) 1 (G) 2 (H) 3 (I) 4

5. In the figure at the right, which line is the same as $\overleftrightarrow{ED}$?



   (A) $\overleftrightarrow{ML}$ (C) $\overleftrightarrow{NL}$

   (B) $\overleftrightarrow{DM}$ (D) $\overleftrightarrow{MN}$

6. If two lines are coplanar, which of the following must be true?

   (F) The lines intersect.

   (G) The lines never intersect.

   (H) All points on the lines are coplanar.

   (I) The lines share at least one point.

7. What is the intersection of two distinct, non-parallel planes?

   (A) a point (B) a line (C) a line segment (D) a ray

Short Response

8. Point *C* does not lie on $\overleftrightarrow{XY}$. Can point *C* lie in the same plane as $\overleftrightarrow{XY}$? Explain.

Topic:

1.3: Measuring Segments

Summary:

Name _____ Class _____ Date _____

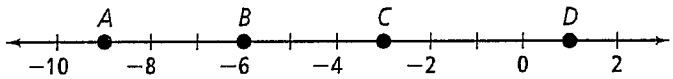
1-3 Standardized Test Prep

Measuring Segments

Gridded Response

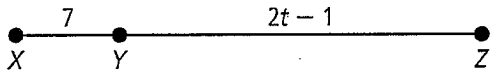
Solve each exercise and enter your answer on the grid provided.

Show Work! 1. What is the length of $\overline{BD}$?



Show Work! 2. Points G, H, and I are collinear and H is between G and I. If $GH = 12$ and $GI = 23$, what is HI?

Show Work! 3. Look at the diagram below. If $XY = 7$ and $XZ = 30$, what is the value of t?

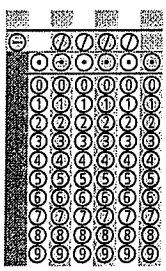
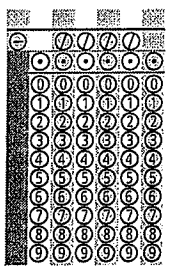
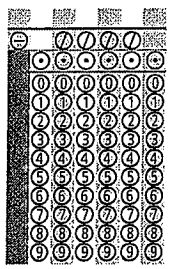
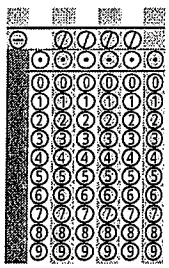
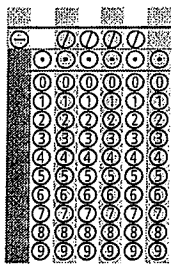


For Exercises 4 and 5, use the figure at the right.

Show Work! 4. M is the midpoint of $\overline{LN}$. What is LM?

Show Work! 5. What is LN?

Answers

1. 
2. 
3. 
4. 
5. 

Topic:

1.4: Measuring Angles

Summary:

Name _____ Class _____ Date _____

1-4 Standardized Test Prep

Measuring Angles

Multiple Choice

For Exercises 1–5, choose the correct letter.

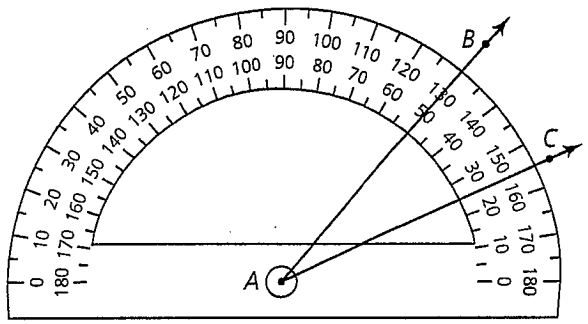
1. What is $m\angle BAC$?

   (A) 25

   (B) 50

   (C) 130

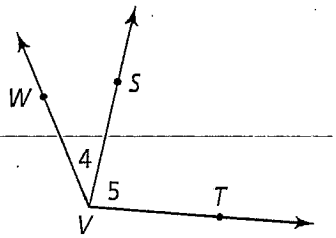
   (D) 155



2. What is another name for $\angle 4$?

   (F) $\angle VWS$ (H) $\angle SVW$

   (G) $\angle SWV$ (I) $\angle WVT$



3. $m\angle KLM = 129$ and $m\angle MNO = 129$. What is true about these two angles?

   (A) They are both acute angles.

   (B) They are congruent.

   (C) They are both right angles.

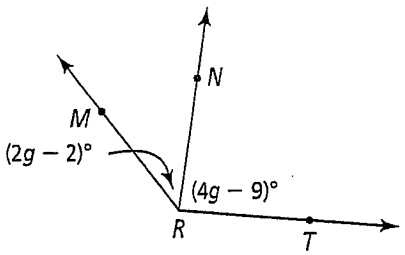
   (D) They are both straight angles.

Show Work!

4. $m\angle MRT = 133$. What is $m\angle MRN$?

   (F) 24 (H) 46

   (G) 48 (I) 87



5. $\angle LJB$ and $\angle IJM$ are congruent. If the sum of the measures of the angles is 90, what type of angle are they?

   (A) acute (B) obtuse (C) right (D) straight

Short Response

6. $m\angle RNY + m\angle GNC = 128$ and $\angle RNY \cong \angle GNC$. What is true about these two angles?

Topic:

1.5: Exploring Angle Pairs

Summary:

Name _____ Class _____ Date _____

1-5 Standardized Test Prep

Exploring Angle Pairs

Multiple Choice

For Exercises 1–6, choose the correct letter.

Show Work!

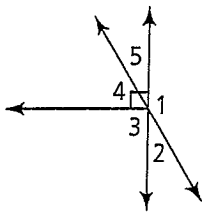
1. $\angle CDE$ and $\angle FDE$ are supplementary, $m\angle CDE = 3x + 10$, and $m\angle FDE = 6x + 8$. What is $m\angle FDE$?

   (A) 18 (B) 64 (C) 108 (D) 116

2. $\overrightarrow{SV}$ bisects $\angle RST$. If $m\angle RSV = 64$, what is $m\angle RST$?

   (F) 32 (G) 64 (H) 116 (I) 128

Use the diagram at the right for Exercises 3 and 4.



3. Which of the following pairs are vertical angles?

   (A) $\angle 1$ and $\angle 2$ (C) $\angle 2$ and $\angle 5$

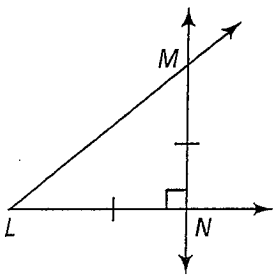
   (B) $\angle 2$ and $\angle 3$ (D) $\angle 4$ and $\angle 5$

4. Which of the following pairs are supplementary?

   (F) $\angle 1$ and $\angle 2$ (H) $\angle 2$ and $\angle 3$

   (G) $\angle 2$ and $\angle 5$ (I) $\angle 4$ and $\angle 5$

Use the diagram at the right for Exercises 5 and 6.



5. Which of the following conclusions can you make from the information in the diagram?

   (A) $\angle MNL \cong \angle LMN$ (C) $\overline{LM} \cong \overline{MN}$

   (B) $m\angle MNL = 2m\angle LMN$ (D) $LM = 2MN$

6. Which of the following conclusions cannot be made from the information in the diagram?

   (F) $\overline{MN} \cong \overline{LN}$ (H) $\angle NLM$ is supplementary to $\angle NML$.

   (G) $\angle NLM \cong \angle NML$ (I) $\angle NLM$ is complementary to $\angle NML$.

Short Response

Show Work!

7. $\angle ABC$ and $\angle DBE$ are vertical angles, $m\angle ABC = 3x + 20$, and $m\angle DBE = 4x - 10$. Write and solve an equation to find $m\angle ABC$ and $m\angle DBE$.

Topic:

1.7: Midpoints and Distance Formula

Summary:

Name _____ Class _____ Date _____

1-7 Standardized Test Prep

Midpoint and Distance in the Coordinate Plane

Multiple Choice

For Exercises 1–7, choose the correct letter.

Show Work! **1.** What is the other endpoint of the segment with midpoint -3 and endpoint -7?

(A) -11 (B) -5 (C) 1 (D) 4

Show Work! **2.** The endpoints of $\overline{ST}$ are $S(2, -2)$ and $T(4, 2)$. What are the coordinates of the midpoint of $\overline{ST}$?

(F) (3, 0) (G) (0, 3) (H) (3, −2) (I) (3, 2)

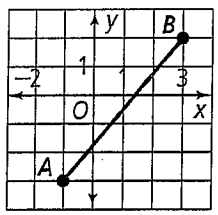
Show Work! **3.** What is the distance between $A(-8, 4)$ and $B(4, -1)$?

(A) 7 (B) 10 (C) 13 (D) 17

4. The midpoint of $\overline{XZ}$ is Y. Which of the following is true?

(F) $XZ = XY$ (G) $XZ = \frac{1}{2}XY$ (H) $YZ = \frac{1}{2}XY$ (I) $YZ = \frac{1}{2}XZ$

Use the graph at the right for Exercises 5 and 6.



Show Work! **5.** According to the graph, what is the midpoint of $\overline{AB}$?

(A) (1, 0) (C) (1, 0.5)

(B) (1, −0.5) (D) (1.5, −0.5)

Show Work! **6.** According to the graph, what is AB to the nearest tenth?

(F) 2.2 (G) 3 (H) 5 (I) 6.4

Show Work! **7.** The midpoint of $\overline{CD}$ is $M(-3, -7)$. If the coordinates of C are $(-2, -10)$, what are the coordinates of D?

(A) (−4, −4) (B) (−1, −13) (C) (−2.5, −8.5) (D) (−5, −17)

Short Response

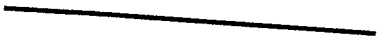
8. The midpoint of $\overline{AB}$ is in Quadrant IV, and $\overline{AB}$ is parallel to the y-axis.

a. What quadrant or quadrants cannot contain either point A or B? Explain.

b. What else can you determine about points A and B?

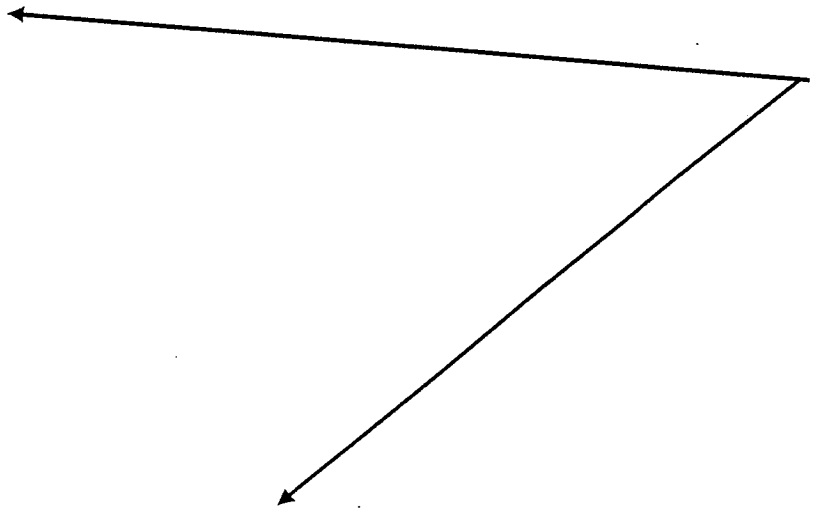
Name_____
Date_____
Geometry Period _____
1-6 (Attempts) Constructions Sheet

Construct a congruent segment to the one below.



Construct the perpendicular bisector of the segment below.

Construct the angle bisector of the angle below.



Name_____
Date_____
Geometry Period _____
Geometer's Sketchpad Activity

You will need to create the following items in geometer's sketchpad. **Reminder: you MUST use the construct menu for a construction!!!!** All of this should be completed on one document.

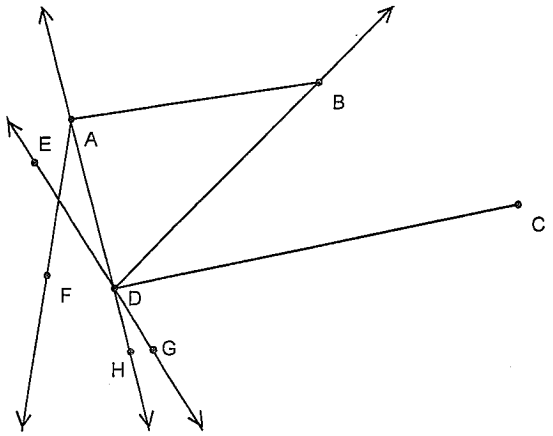
- Create a point and label it.
  - To label a point, select it and right click. Select "Label Point".
- Create a line, label its points, and name it.
  - To name a figure, select the text tool. Click on the "symbolic notation" button. It is at the bottom of the page and it looks like this: $\frac{\pi\sqrt{2}}{3}$. Choose the symbol required for your figure and begin to type.
- Create a segment, label its points, and name it.
- Measure a segment.
  - To do this, select the segment. Click on the MEASURE Menu and choose "Length".
- Construct a midpoint on a segment.
  - To do this, select the segment. Click on the CONSTRUCT Menu and choose "Midpoint".
- Construct a segment that has been perpendicularly bisected.
  - To do this, select the segment AND the midpoint. Be sure these are the only items highlighted. Otherwise, it will not work. Click on the CONSTRUCT Menu and choose "Perpendicular Line".
- Create a ray, label its points, and name it.
- Create an angle, label its points, and name it.
- Measure an angle.
  - To do this, select the three points that define the angle. THE VERTEX MUST BE SELECTED AS THE SECOND POINT! Click on the MEASURE Menu and choose "Angle".
- Construct an angle that has been bisected.
  - To do this, select the three points that define the angle. THE VERTEX MUST BE SELECTED AS THE SECOND POINT! Click on the CONSTRUCT Menu and choose "Angle Bisector".

After you have made these items, save the document in the folder listed below:
Student Common Drive → mary.gruver Folder → Classes folder → Select Your Period → Share
Make sure you call it "Sketchpad Constructions" followed by your last name and your partner's last name if you had one. Ex: SketchpadConstructionsGruverCarson

Name_____ Date_____

Geometry Period _____

Naming Geometric Figures



From the diagram above, name the following using the correct symbol notation:

a. Name all the points on the figure.

b. Name two segments.

c. Name two lines.

d. Name two rays.

e. Name the plane that would contain all of these figures.

f. Name two angles.

g. Name two adjacent angles.

h. Name a pair of vertical angles.

i. Name a linear pair.

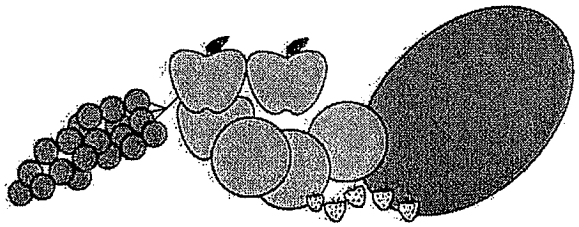
Name _____ Class _____ Date _____

1-3 Puzzle: What Is a Line's Favorite Kind of Fruit?

Measuring Segments

Solve the problems below to answer the riddle:

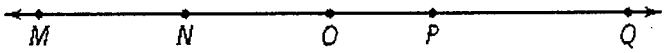
What is a line's favorite kind of fruit?



Look for your answer in the key at the right and put the corresponding letter in the answer blank at the bottom of the page.

1. Points A, B, and C are collinear and A is between B and C. $AB = 4x - 3$, $BC = 7x + 5$, and $AC = 5x - 16$. Find each value.
   a. BC
   b. AB
   c. AC
2. On a number line, $G = 8$ and $H = -3$. If H is the midpoint of $\overline{GI}$, find the coordinate of I.
3. J is the midpoint of $\overline{KL}$. Find KJ if $KL = 38$.

For 4–6, refer to the number line below.



4. Suppose O is the midpoint of $\overline{MQ}$ and N is the midpoint of $\overline{MO}$. If $NO = 8$, find MQ.
5. Suppose P is the midpoint of $\overline{NQ}$, $OP = 11$, and $OQ = 35$. Find NO.
6. If $NO = 2y + 11$, $OP = 3y - 2$, $NP = 6y + 3$, and $MP = 64$, find each value.
   a. NO
   b. MN

a	–14
b	20
c	–18
d	–13
e	32
f	3
g	23
h	39
i	16
j	41
k	–11
l	12
m	13
n	89
o	44
p	–26
q	6
r	19
s	45
t	25
u	42
v	10
w	–7
x	16
y	27
z	50

An $\frac{\quad}{1c}\ \frac{\quad}{3}\ \frac{\quad}{2}\ \frac{\quad}{1a}\ \frac{\quad}{6a}\ \frac{\quad}{4}$ because it is made of $\frac{\quad}{1b}\ \frac{\quad}{4}\ \frac{\quad}{6a}\ \frac{\quad}{5}\ \frac{\quad}{4}\ \frac{\quad}{1a}\ \frac{\quad}{6b}\ \frac{\quad}{1b}$.

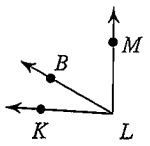
Kuta Software - Infinite Geometry

Name_____

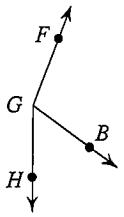
The Angle Addition Postulate

Date_____ Period____

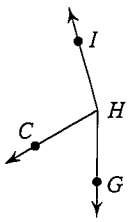
1) Find $m\angle KLM$ if $m\angle KLB = 26°$ and $m\angle BLM = 60°$.



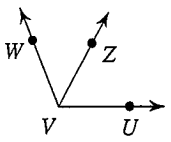
2) Find $m\angle FGH$ if $m\angle FGB = 105°$ and $m\angle BGH = 54°$.



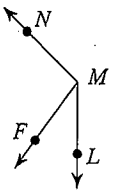
3) $m\angle GHC = 60°$ and $m\angle CHI = 104°$. Find $m\angle GHI$.



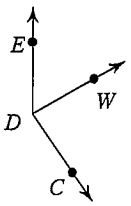
4) Find $m\angle WVU$ if $m\angle ZVU = 62°$ and $m\angle WVZ = 50°$.



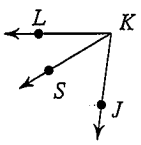
5) $m\angle FMN = 99°$ and $m\angle LMF = 36°$. Find $m\angle LMN$.



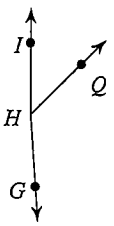
6) Find $m\angle WDC$ if $m\angle EDC = 145°$ and $m\angle EDW = 61°$.



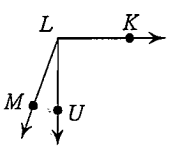
7) Find $m\angle JKL$ if $m\angle SKL = 31°$ and $m\angle JKS = 52°$.



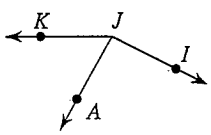
8) Find $m\angle IHQ$ if $m\angle IHG = 176°$ and $m\angle QHG = 130°$.



9) Find $m\angle KLU$ if $m\angle ULM = 20°$ and $m\angle KLM = 110°$.



10) Find $m\angle IJA$ if $m\angle AJK = 61°$ and $m\angle IJK = 153°$.



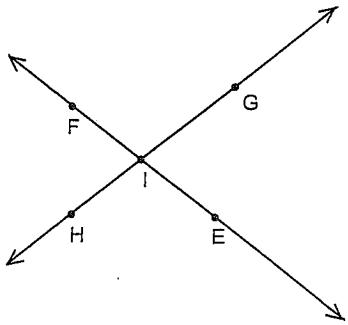
Name_____ Date_____

Geometry Period _____

Vertical Angles and Linear Pairs Worksheet

In each case below, name a set of vertical angles and a linear pair.

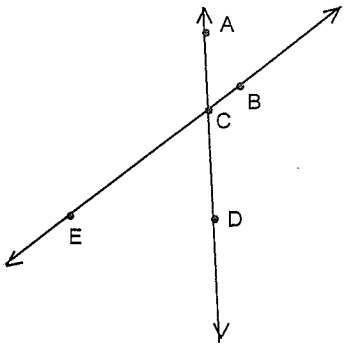
1.



Vertical Angles: _____

Linear Pair: _____

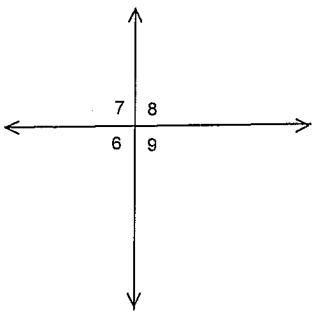
2.



Vertical Angles: _____

Linear Pair: _____

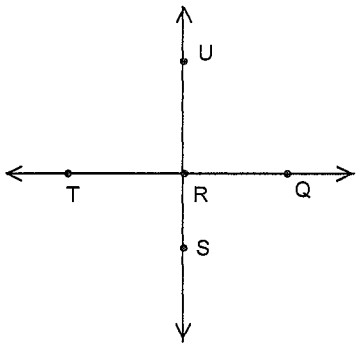
3.



Vertical Angles: _____

Linear Pair: _____

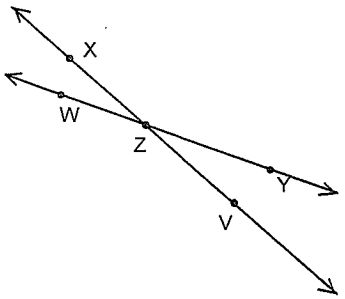
4.



Vertical Angles: _____

Linear Pair: _____

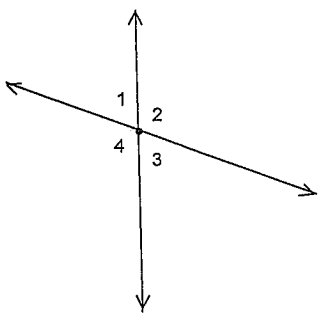
5.



Vertical Angles: _____

Linear Pair: _____

6.



Vertical Angles: _____

Linear Pair: _____

Name _____ Class _____ Date _____

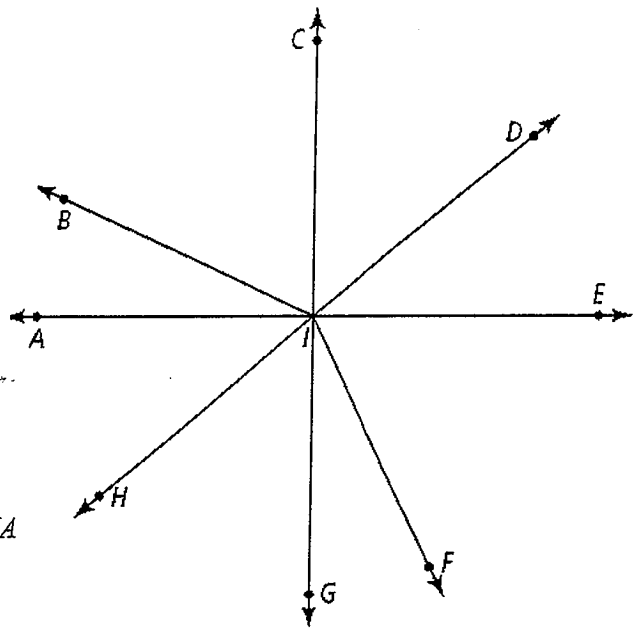
1-4 Puzzle: Word Search

Measuring Angles

Materials

- Protractor

Use a protractor and the diagram at the right to fill in the blanks. Then search the grid below for the non-numerical answers.



1. B is in the ? of $\angle AIC$.
2. $m\angle EID =$?, so it is a(n) ? angle.
3. $m\angle CIH =$?, so it is a(n) ? angle
4. $\angle AIE$ is a(n) ? angle.
5. $m\angle BIA =$? and $m\angle FIG =$?, so $\angle BIA$ and $\angle FIG$ are ?.
6. $m\angle AIG =$?, so it is a(n) ? angle.
7. The ? ? Postulate allows you to say that $m\angle AIB + m\angle AIG = m\angle BIG$.
8. A is in the ? of $\angle DIF$.
9. If two angles are congruent, they can be marked with the same number of ?.

X	U	E	A	P	R	N	J	C	C	X	K	A	X
C	Y	G	X	P	E	G	Y	Q	E	N	L	C	E
G	Y	U	P	T	E	M	M	K	R	W	B	H	P
R	M	C	S	S	E	J	E	P	J	V	L	J	T
O	J	C	O	N	G	R	U	E	N	T	Z	H	M
V	R	B	N	A	O	O	I	F	C	G	G	A	F
Y	S	W	S	Z	N	Z	A	O	R	I	A	O	H
C	K	C	Y	K	E	N	R	G	R	L	M	V	G
R	R	Z	Z	J	P	B	Z	E	N	R	Q	R	L
A	N	G	L	E	A	D	D	I	T	I	O	N	C
X	K	L	C	X	A	C	U	T	E	D	Y	L	Q
C	E	X	R	Y	M	U	M	A	V	L	P	K	Y
C	W	C	X	G	A	C	L	O	B	T	U	S	E
Q	G	A	I	N	T	E	R	I	O	R	A	U	C
T	K	S	T	R	A	I	G	H	T	F	D	O	Z

Tools of Geometry Chapter 1 Project Name:_____ Per: ___

This project is worth a total of 8 points.

PART 1:

In sketchpad or on a piece of graph paper, plot two points. Create one at (5,1) and label it A. Create one at (-1,-1) and label it B. (0.5 Points)

Create a ray beginning at B and going through A. Name the ray. _____ (0.5 Points)

Using the distance formula, find the distance between point A and point B. _____ If using sketchpad, confirm your measurement. (0.5 Points)

Now, create a third point at (5, 5) and label it C.

Find the distance from point A to point C. _____(0.5 Points)

Create a line through points C and B. Name the line. _____(0.5 Points)

Create segment AC.

Put a final point at (5, 2) and label it D. If segment AD is 1, how long is segment DC? _____(0.5 Points)

Create segment BD. Name it. _____(0.5 Points)

If the measure of $\angle ABC$ is 30° and the measure of $\angle ABD$ is 5°, how many degrees is the measure of $\angle DBC$? _____ (0.5 Points)

PART 2: On another sheet of graph paper, create and label one of each kind of angle: (0.5 Points Each)

Obtuse

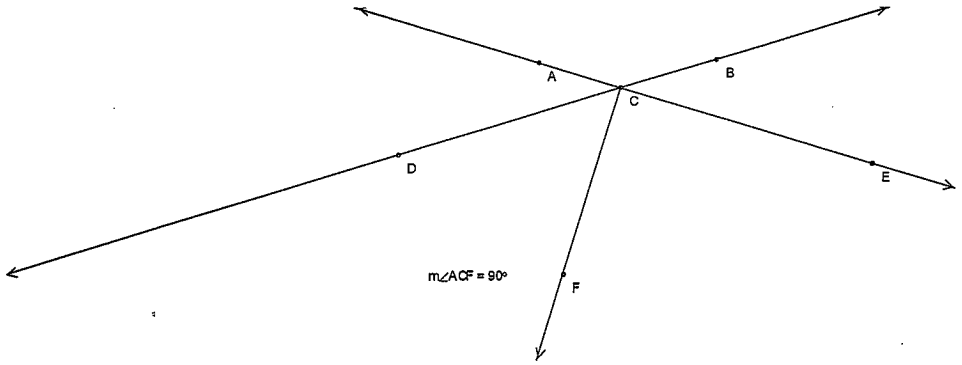
Straight

Right

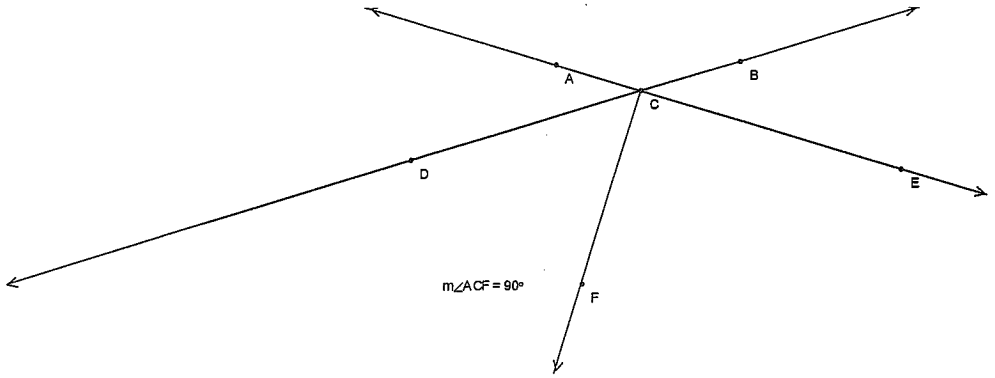
Acute

PART 3: (0.5 Points Each) On the figures below, highlight the given items in the color indicated:

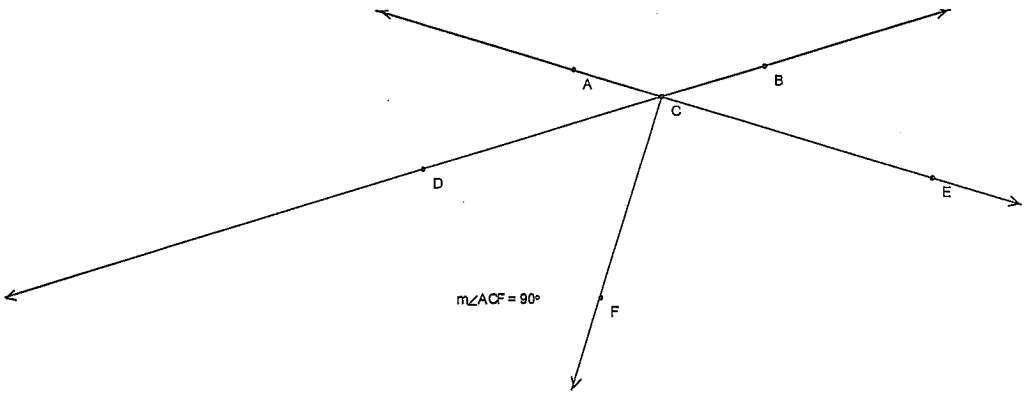
Trace a pair of vertical angles in red.



Trace a pair of supplementary angles in blue.



Trace a pair of complementary angles in yellow.



Trace a pair of adjacent angles in green.