

You may earn up to 7 points of extra credit by completing the study sheets for each of the chapters that we have covered in first semester. (1 points per chapter with the exception of Chapter 6, which will be $\frac{1}{2}$ point. If all 6 are completed, then a bonus point for a total of 7 will be rewarded)

The study sheets will be graded using the following criteria:

- If you have questions about this extra credit opportunity, please ask BEFORE you attempt to do it and BEFORE it is due.

Total points : 7
awarded

Name _____

points _____

CHAPTER 6 REVIEW SHEET

Section 1:

⊥ Bisector Theorem (draw a diagram):

Converse of ⊥ Bisector Theorem (draw a diagram):

Angle Bisector Theorem (draw a diagram):

Converse of Angle Bisector Theorem (draw a diagram):

Section 2 and 3:

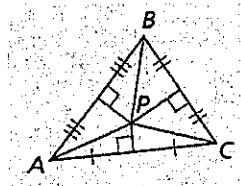
Point of concurrency:

For the following 4 problems, fill in the first blank with the correct vocab term. Then fill in the blanks/answer the question(s) about its properties.

_____ : where the _____ of the _____ intersect.

**equidistant from the _____ of the triangle

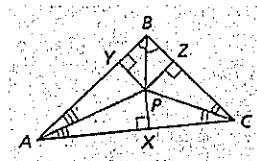
**When is this point inside/outside/on the triangle?:



_____ : where the _____ of the _____ intersect.

**equidistant from the _____ of the triangle

**Where is this point always located? Inside, outside, or on the triangle?:

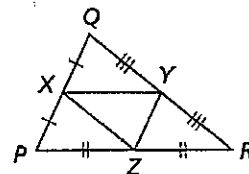


Section 4:

Midsegment of a triangle connects two of the _____ of the _____.
The midsegment triangle is:

Triangle Midsegment Theorem:

- 1) The midseg. is _____ to a side of the Δ
- 2) The length of the midseg. is _____ the length of that side



Name _____

points _____

CHAPTER 1 FINAL REVIEW SHEET

Section 1.1:

The undefined terms are: _____, _____ and _____.

Vocab Term	Definition	Diagram
Point		
Line		
Plane		
Segment		
Endpoint		
Ray		
Opposite Rays		

Collinear (definition):

Coplanar (definition):

Postulate, otherwise known as _____ (definition):

Postulate 1-1-1: Through _____ two _____ there is exactly one _____.

Postulate 1-1-2: Through _____ three _____ points there is exactly _____ plane containing them.

1-1-3: If _____ points lie in a _____, then the line containing those points lies in _____.

1-1-4: If two _____ intersect, then they intersect in exactly _____.

1-1-5: If two _____ intersect, then they intersect in exactly _____.

Section 1.2:

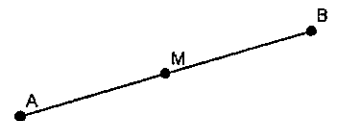
How to find the distance between two points on a number line:

Congruent segments:

Segment Addition Postulate (Use the line seg at right to write an equation):

Midpoint: (def)

Bisect (def):



Section 1.3:

Angle: (def)

Vertex: (def)

Acute Angle: (def)

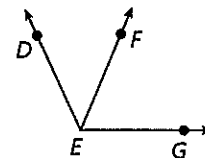
Right Angle: (def)

Obtuse Angle: (def)

Straight Angle: (def)

Congruent Angles: (def)

Angle Addition Postulate (use the diagram at right to write an equation):



Section 1.4:

Adjacent Angles: (def)

Linear Pair: (def)

Complementary Angles: (def)

Supplementary Angles: (def)

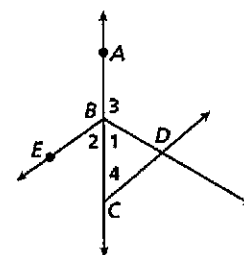
Use diagram at right to list an example of the following ($m\angle EBD = 90^\circ$):

Adjacent Angles:

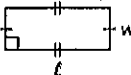
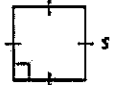
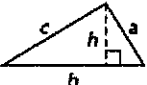
Linear Pair:

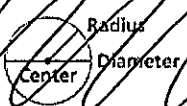
Complementary Angles:

Supplementary Angles:



Section 1.5:

Shape	Perimeter Formula	Area Formula
Rectangle 		
Square 		
Triangle 		

	Circumference Formula	Area Formula
Circle 		

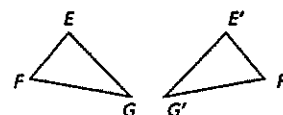
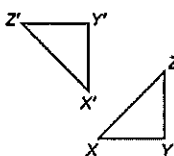
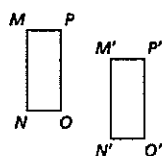
Section 1.6:

Midpoint Formula:

Distance Formula:

Pythagorean Theorem:

Section 1.7: Name the following transformations (reflection, rotation, or translation)



Name _____

points _____

CHAPTER 2 FINAL REVIEW SHEET

Section 2.1:

Inductive Reasoning:

Conjecture:

Deductive Reasoning:

Counterexample:

Section 2.2:

Conditional statement:

Hypothesis (of conditional statement):

Conclusion (of conditional statement):

Negation (of a given statement, also provide the symbol used):

Fill in the table using the “p” and “q” statements:

Conditional	
Converse	
Inverse	
Contrapositive	

The conditional and _____ are logically equivalent (they have the same truth value)

The converse and _____ are logically equivalent (they have the same truth value)

Section 2.3:

Law of Syllogism:

Determine if the conjecture is valid by the Law of Syllogism.

Given: If an animal is a mammal, then it has hair.

 If an animal is a dog, then it is a mammal.

Conjecture: If an animal is a dog, then it has hair.

Law of Detachment:

Given: If you are tardy 3 times, you must go to detention.

 Shea is in detention.

Conjecture: Shea was tardy at least 3 times.

Section 2.4:

Biconditional Statement:

What needs to be true to form a biconditional statement?

Write the converse of the statement and write the biconditional:

“If points lie on the same line, then they are collinear.”

Converse:

Biconditional:

Section 2.5:

Addition Prop. =			Distributive Prop. =	
Subtraction Prop. =			Reflexive Prop. =	
Multiplication Prop. =			Symmetric Prop. =	
Division Prop. =			Transitive Prop. =	

Reflexive Prop. $\cong$	
Symmetric Prop. $\cong$	
Transitive Prop. $\cong$	

Section 2.6:

Theorem:

Congruent Supplements Theorem:

Right Angle Congruence Theorem:

Congruent Complements Theorem:

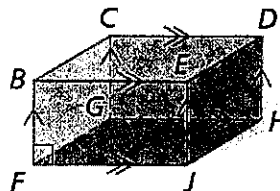
Name _____

points _____

CHAPTER 3 REVIEW SHEET

Section 1:

Use the diagram to find the following:



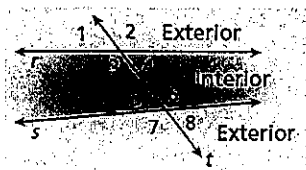
Pair of Parallel Lines:

Pair of Perpendicular Lines:

Pair of Skew Lines:

Pair of Parallel Planes:

Use the diagram to find the following:

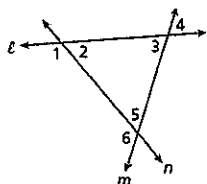


Pair of Corresponding Angles:

Pair of Alternate Interior Angles:

Pair of Same-Side Interior Angles:

Pair of Alternate Exterior Angles:



Identify the transversal and classify the angle pair $\angle 2$ and $\angle 5$ in the diagram above.

Section 2:

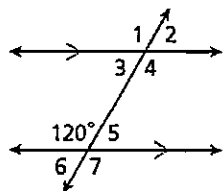
If lines are parallel, then corresponding angles are _____.

If lines are parallel, then alternate interior angles are _____.

If lines are parallel, then alternate exterior angles are _____.

If lines are parallel, then same-side interior angles are _____.

Find each angle measure:



13. $m\angle 1$

14. $m\angle 2$

15. $m\angle 3$

16. $m\angle 4$

17. $m\angle 5$

18. $m\angle 6$

19. $m\angle 7$

Section 3:

If corresponding angles are _____, then lines are _____.

If alternate interior angles are _____, then lines are _____.

If alternate exterior angles are _____, then lines are _____.

If same-side interior angles are _____, then lines are _____.

If there is a point not on a line, how many lines through that point are parallel to the line? _____

Section 4:

The shortest distance from a point to a line is:

If 2 angles form a linear pair and both angles are congruent, then:

Diagram:

If a transversal is $\perp$ to one of 2 parallel lines, then:

Diagram:

If 2 coplanar lines are $\perp$ to the same line, then:

Diagram:

Section 5:

Slope (definition):

Slope formula:

If two lines are parallel, then their slopes are:

If two lines are perpendicular, then their slopes are:

Draw examples of lines with the following slope characteristics:

Positive:

Negative:

Zero:

Undefined:

Circle the following equation whose graph is **vertical**: $y = 4$ $x = 3$

Circle the following equation whose graph is **horizontal**: $y = 4$ $x = 3$

Section 6:

Point-Slope Form:

Slope-Intercept Form:

Standard Form:

If two lines are parallel, then their slopes are _____ and the y-intercepts are _____.

If two lines intersect, then their slopes are _____.

If two lines coincide, then their slopes are _____ and the y-intercepts are _____.

Name _____

points _____

CHAPTER 4 FINAL REVIEW SHEET

Section 1:

Isometry (def):

Isometries are also called _____ or _____

A reflection is a transformation across a line, called the _____, so that it is the _____ of each segment joining each point and its image.

Rules for reflections across the lines...			
x-axis	y-axis	$y = x$	$y = -x$
$(x, y) \rightarrow (\quad , \quad)$	$(x, y) \rightarrow (\quad , \quad)$	$(x, y) \rightarrow (\quad , \quad)$	$(x, y) \rightarrow (\quad , \quad)$

Section 2:

A translation is a transformation along a _____ such that each segment joining a point and its image has the _____ as the vector and is _____ to the vector

Vectors have horizontal components (h) and vertical components (k).

Rule for translations along vector $\langle h, k \rangle$: $(x, y) \rightarrow (\quad , \quad)$

Section 3:

A rotation is a transformation about a point P, called the _____, such that each point and its image are the _____ from P, and such that all angles with vertex P formed by a point and its image are _____.

Which is the default direction for rotations? In other words, unless otherwise stated, the direction of the rotation is always _____

Rules for rotations about the origin...		
90°	180°	270°
$(x, y) \rightarrow (\quad , \quad)$	$(x, y) \rightarrow (\quad , \quad)$	$(x, y) \rightarrow (\quad , \quad)$

A 90° rotation clockwise is the same as a _____ $^\circ$ rotation counterclockwise.

A 180° rotation clockwise is the same as a _____ $^\circ$ rotation counterclockwise.

A 270° rotation clockwise is the same as a _____ $^\circ$ rotation counterclockwise.

Section 4:

Composition of transformations:

Glide reflection (def):

Theorem: The composition of two reflections in two parallel lines is equivalent to a _____

Theorem: The composition of two reflections in intersecting lines is equivalent to a _____

→ The angle of rotation is _____ that of the angle of formed by the lines.

→ The center of rotation is the _____ of the two lines

Section 5 (only some of it...not all):

Symmetry (def):

Line symmetry (def):

Rotational symmetry (def):

The angle of rotational symmetry is the _____ angle which a figure can be rotated to be mapped onto itself.

Section 7:

Dilation (def):

The image and preimage after a dilation are said to be _____.

A dilation is also called a _____.

The scale factor, k , is the ratio of the lengths of the _____ to the length of its corresponding _____

Rule for dilations (under scale factor, k): $(x, y) \rightarrow (\quad , \quad)$

A negative value for k also represents a _____ by _____°

Name _____

points _____

CHAPTER 5 REVIEW SHEET

Section 1:

Acute Triangle:

Equilateral triangle:

Equiangular triangle:

Isosceles Triangle:

Right triangle:

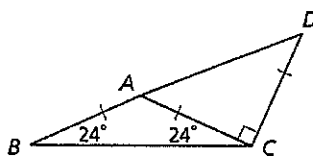
Scalene Triangle:

Obtuse triangle:

Classify each triangle by its angles and sides.

30. $\triangle ABC$

31. $\triangle ACD$



Section 2:

The angles in a triangle add to:

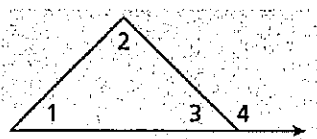
Auxiliary line (draw an example):

Draw and label ONE example of an **exterior angle** of the triangle at right:

Draw and label the remote interior angles to the exterior angle in the same triangle at right:



Exterior Angle Theorem (use the triangle below to write an equation using the numbered angles):



Third Angles Theorem:

Section 3:

Describe corresponding angles of congruent polygons:

Describe corresponding sides of congruent polygons:

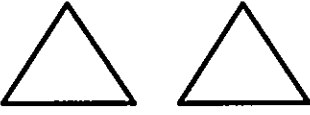
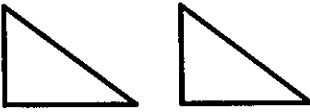
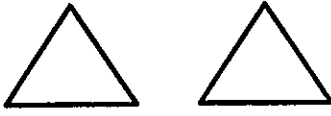
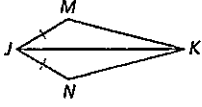
Polygons are congruent if and only if:

If $\triangle RST \cong \triangle XYZ$, identify all pairs of congruent corresponding parts.

Section 4 and 5:

What is an included angle?:

What is an included side?:

Name of $\Delta \cong$ shortcut	Diagram and Description	Name of $\Delta \cong$ shortcut	Diagram and Description
SSS $\cong$		ASA $\cong$	
SAS $\cong$		HL $\cong$	
AAS $\cong$		Practice Proof: Given: $\overline{JK}$ bisects $\angle MJN$. $\overline{MJ} \cong \overline{NJ}$ Prove: $\triangle MJK \cong \triangle NJK$ 	

Statements	Reasons

Section 6:

What does CPCTC stand for?:

To use CPCTC in a proof, we must first prove that:

Section 7:

What are the 4 strategies for placing a figure in the coordinate plane?

- 1.
- 2.
- 3.
- 4.

Section 4.8:

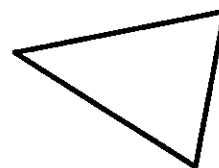
Identify the **base angles** and **legs** of the isosceles triangle at right:

If  $\rightarrow$

If  $\rightarrow$

If a triangle is equilateral $\rightarrow$ the triangle is _____.

If a triangle is equiangular $\rightarrow$ the triangle is _____.



Name _____

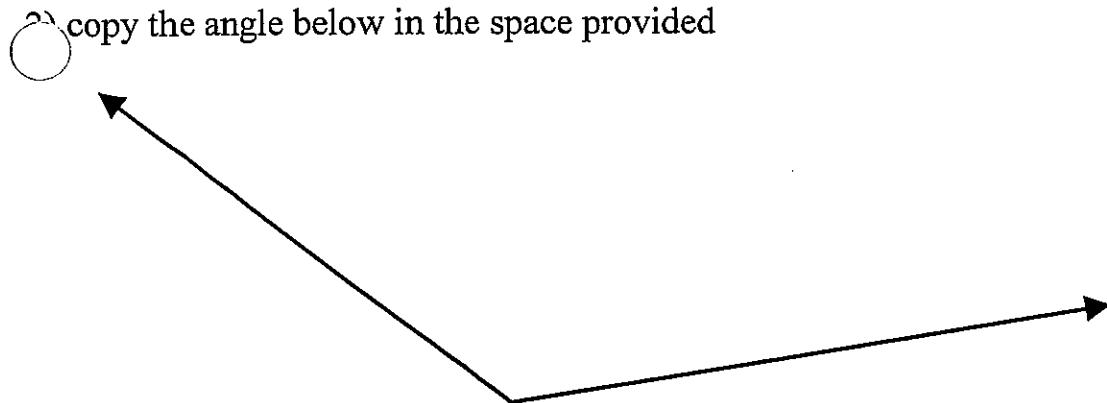
points _____

CONSTRUCTIONS REVIEW SHEET

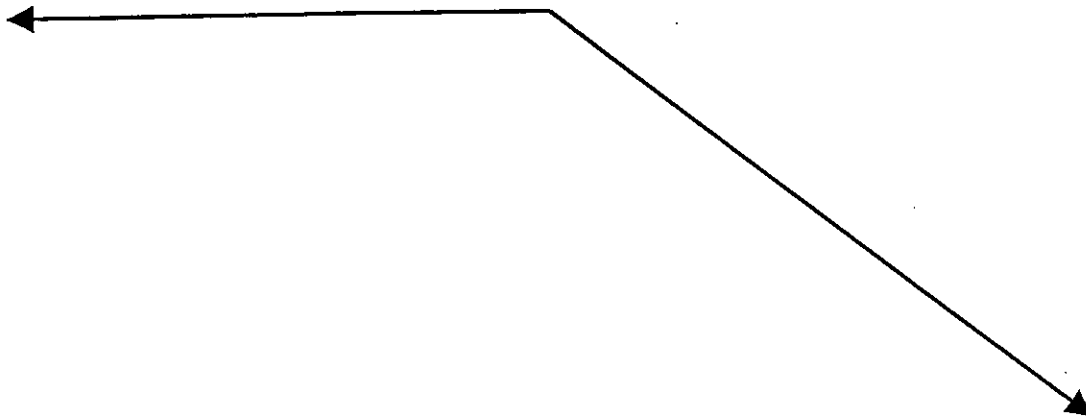
1) copy the segment below in the space provided



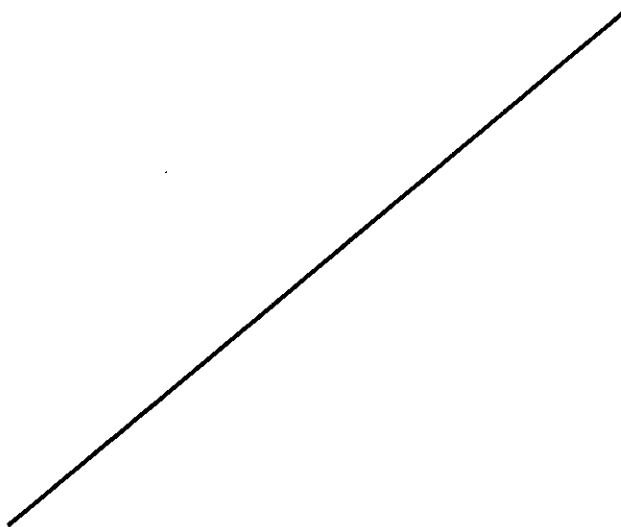
2) copy the angle below in the space provided



3) construct an angle bisector on the angle below in the space provided



4) construct a perpendicular bisector on the segment below in the space provided



Geometry Constructions 2 Show ALL construction marks!! Name: _____
Sem 1 Date: ____/____/____ period: _____

- ☐ construct a perpendicular line to the given segment through the given point in the space provided



- 2) ☐ construct a perpendicular ray to the given segment through the given point in the space provided



Name _____

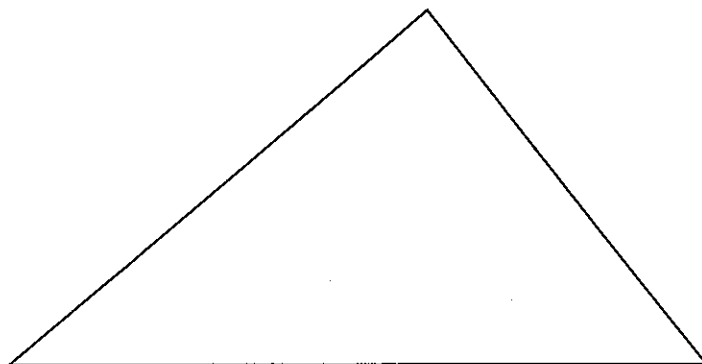
CONSTRUCTIONS REVIEW SHEET

Do the following constructions with your compass. Then fill in the blank (use the word bank, you may use words twice)

Word Bank			
Sides	Angles	Perpendicular ($\perp$) Bisectors	1
Midpoint	Opposite Vertex	Angle Bisectors	2

1. Construct the CIRCUMCENTER of the triangle:

We must construct the _____ of (at least) _____ of the _____.



2. Construct the INCENTER of the triangle:

We must construct the _____ of (at least) _____ of the _____.

