

Name: _____

Geometry Common Core

Date: _____

Quarter Test: Wed. October 30th

Quarter 1 Overview

Unit 1: Angles

*Know all vocabulary from this unit.

Parallel lines cut by a transversal

Auxiliary lines

Angles in triangles

Be able to justify your answers

Unit 2: Constructions

Copy a segment/angle

Bisect a segment/angle

Perpendicular bisector

Perpendicular line through a point

Equilateral triangle

Regular hexagon (given a side)

Hexagon inscribed in a circle

Equilateral triangle inscribed in a circle

Square inscribed in a circle

Parallel line

Unit 3: Centers of Concurrency

*Know all properties, constructions and algebraic applications

Incenter - Construct using angle bisectors

Circumcenter - Construct using perpendicular bisectors

Centroid - Construct using medians

Orthocenter - Construct using altitudes

Unit 4: Rigid Motions

A rigid motion preserves distance and angle measure.

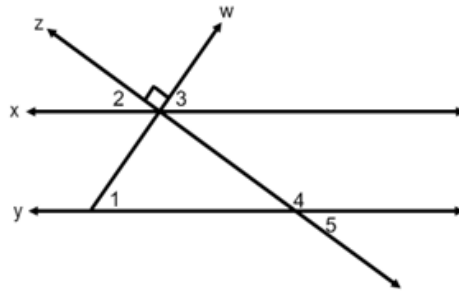
The three basic rigid motions are *reflections*, *rotations*, and *translations*.

****Know your coordinate rules and constructions for reflections, rotations and translations!!!!

Study all notes from this Quarter!!!

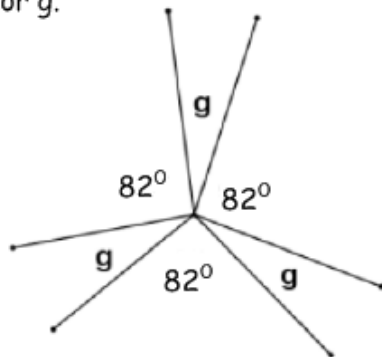
Unit 1 Examples

1) $m\angle 1 = 50^\circ$, find the remaining numbered angles. State the geometric reason for each step.



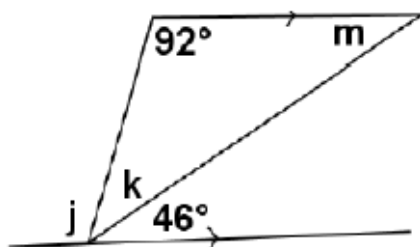
Angle	Angle Measure	Reason
$\angle 2$		
$\angle 3$		
$\angle 4$		
$\angle 5$		

2) Solve for g .



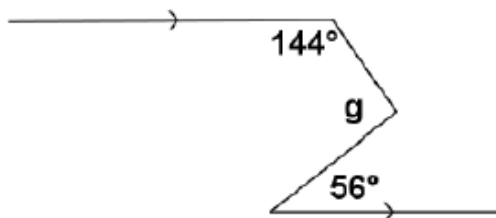
Justification: _____

3.) Find m , j , and k .



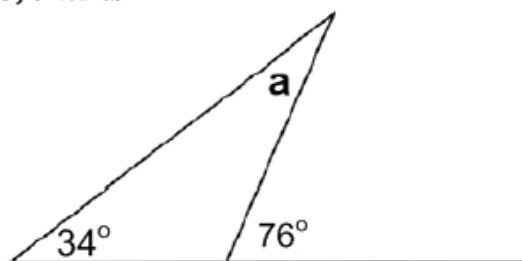
Justifications:

4) Find g .



Justifications:

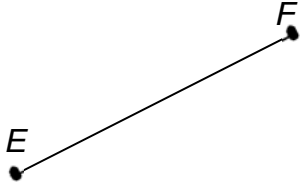
5) Find a .



Justifications:

Unit 2 Examples:

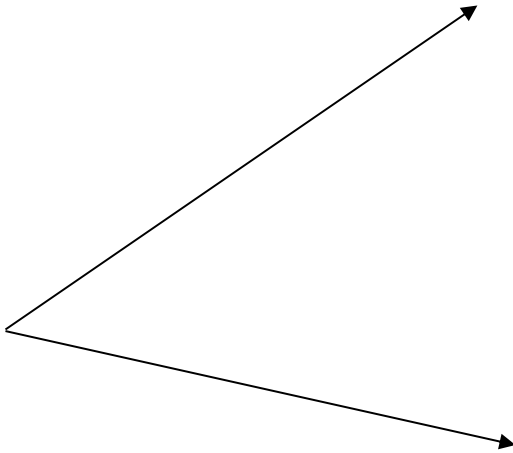
1) Copy this line segment, and call your copy \overline{GH} .



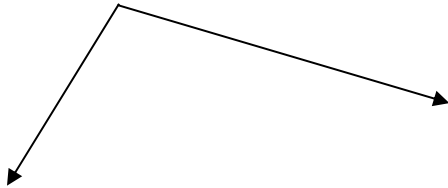
2) Bisect this line segment using a straightedge and compass:



3) Construct the angle bisector of the given angle.



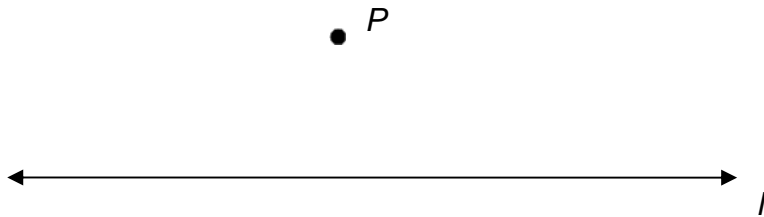
4) Construct a copy of this angle, and label it $\angle CLN$.



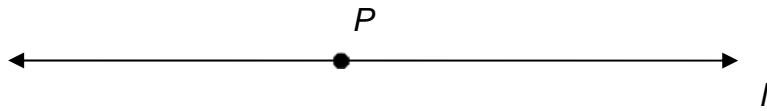
5) Construct a line parallel to line k , and label it n .



6) Construct a line perpendicular to line l , and passing through the point P .



7) Construct a line perpendicular to line l , and passing through the point P .



8) Construct a **regular hexagon** with the given side length



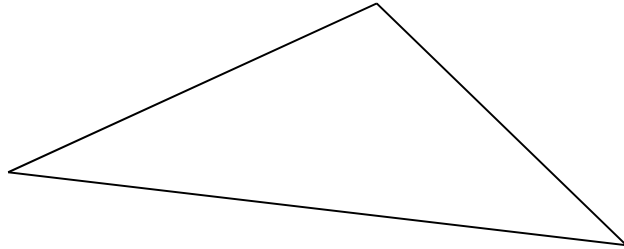
9) Construct a Hexagon inscribed in a circle.

10) Construct an equilateral triangle inscribed in a circle.

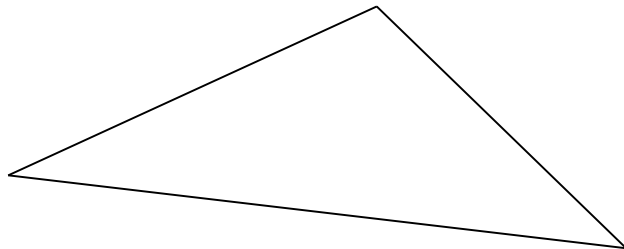
11) Construct a square inscribed in a circle.

Unit 3 Examples:

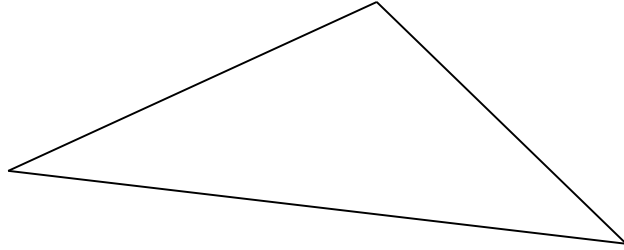
1) Construct (with a compass and a straight edge) **an altitude** of the following triangle.



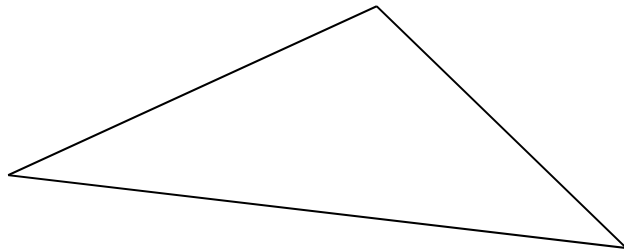
2) Construct (with a compass and a straight edge) **a median** of the following triangle.



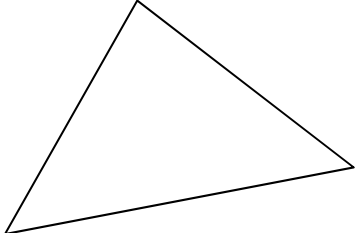
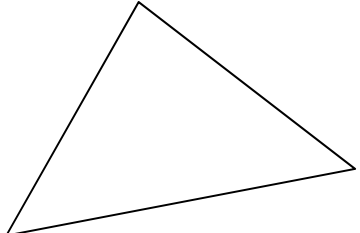
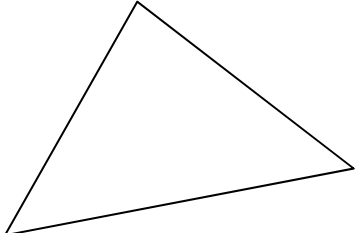
3) Construct (with a compass and a straight edge) the **incenter** of the following triangle.



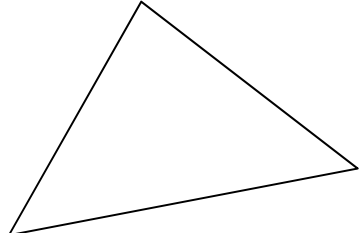
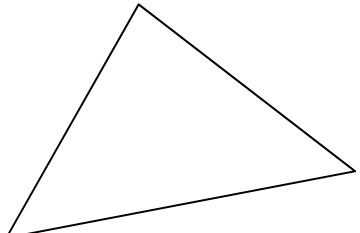
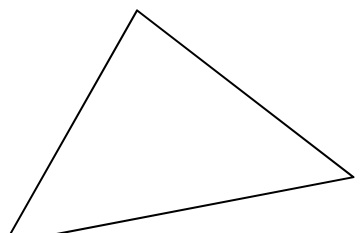
4) Construct (with a compass and a straight edge) the **circumcenter** of the following triangle.



1. Name the 3 properties of the INCENTER.

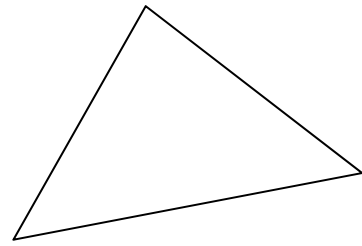
	
	
	

2. Name the 3 properties of the CIRCUMCENTER.

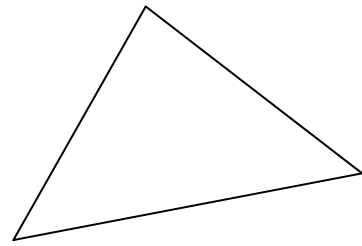
	
	
	

3. Name 2 properties of the CENTROID.

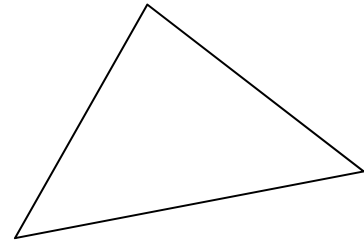
a)



h)

**4. Name the 1 property of the ORTHOCENTER.**

i)



- 1) The centroid of a triangle is the point of concurrency of what lines of a triangle?
- A) medians C) altitudes
B) perpendicular bisectors of the sides D) bisectors of the angles
- 2) The circumcenter of a triangle is the point of concurrency of what lines of a triangle?
- A) bisectors of the angles C) perpendicular bisectors of the sides
B) medians D) altitudes
- 3) The point which is equidistant from the three sides of a triangle is called the
- A) incenter C) orthocenter
B) circumcenter D) centroid

Unit 4 Examples:

1. Find the image of $(-6, 2)$ under the given transformation.

a) Reflection in the y-axis _____

b) Reflection in the x-axis _____

c) Reflection in the line $y = x$ _____

d) The translation $T_{1,-7}$ _____

e) Rotation of 90° about the origin _____

f) Rotation of 180° about the origin _____

g) Rotation of 270° about the origin _____

2. A translation maps $(1, 4)$ onto $(7, -3)$. Write the image of $(5, 10)$ under the same translation.