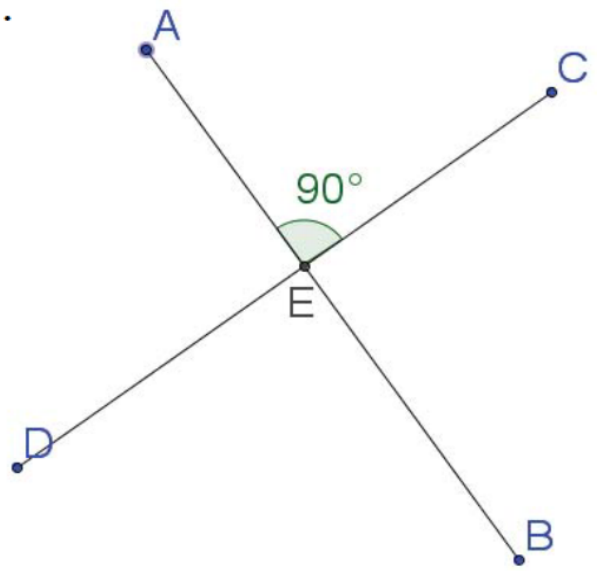
Lesson 4/15/16 Justifying Angle Relationships **Name:** _____ **Period:** ___

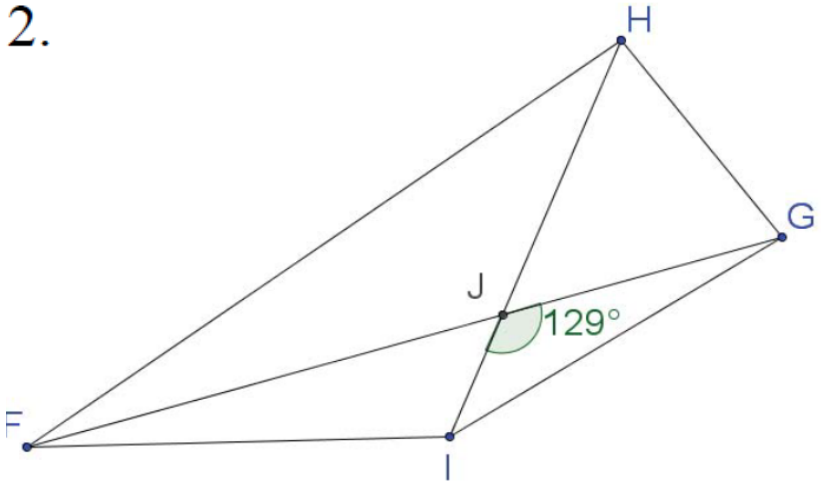
VOCABULARY WORDS *from 4/14/16: Vertical Angles, Supplementary Angles, Complementary Angles, Adjacent Angles. Angle Measures: Acute, Right, Obtuse, and Straight.*

1.



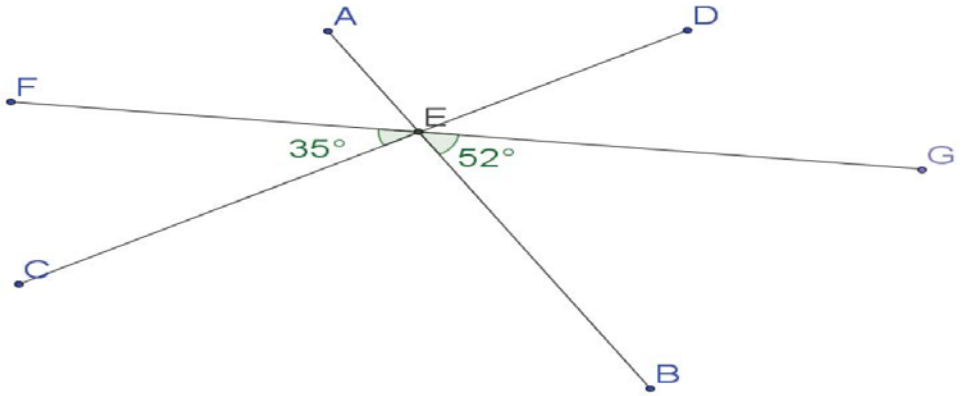
Angle	Measure of angle	Justification
$\angle CEB$		
$\angle DEB$		
$\angle AED$		

2.



Angle	Measure of angle	Justification
$\angle FJI$		
$\angle HJG$		
$\angle FJH$		

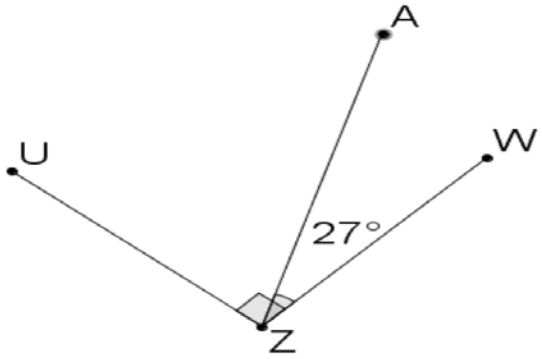
3. For the figure formed by three intersecting lines, calculate the four missing measures, justifying your answer.



Angle	$\angle AEF$	$\angle AEC$	$\angle AED$	$\angle DEG$	$\angle CEB$	$\angle FEG$
Measure	52°					
Justification	Vertical to $\angle GEB$					

4. Refer to the figure below.

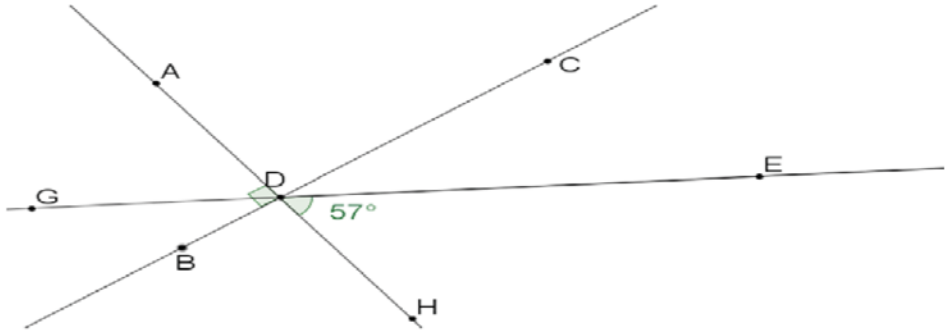
$m\angle AZU =$ because _____.



Name the three angles shown to the left and determine their angle value. Remember, the center letter of your angle always determines your vertex.

Angle	Measure of angle
$\angle$	
$\angle$	
$\angle$	

5. Fill in the missing angle measurements in the table, and give a justification for each measurement.



Angle	$\angle ADG$	$\angle GDB$	$\angle BDH$	$\angle CDH$	$\angle CDE$	$\angle CDA$
Measure	$57°$					
Justification	Vertical to $\angle EDH$					

For #6-8, draw a diagram to illustrate the situation, and then choose the correct answer.

6. If $\angle G$ is complementary to $\angle H$, and $m\angle H = 20°$, then $\angle G$ must be:
   a. Obtuse
   b. Acute
   c. Right

Draw it (Show how you know)

7. If $\angle B$ is supplementary to $\angle C$, and $m\angle C = 90°$, then $\angle B$ must be:
   d. Obtuse
   e. Acute
   f. Right

Draw it (Show how you know)

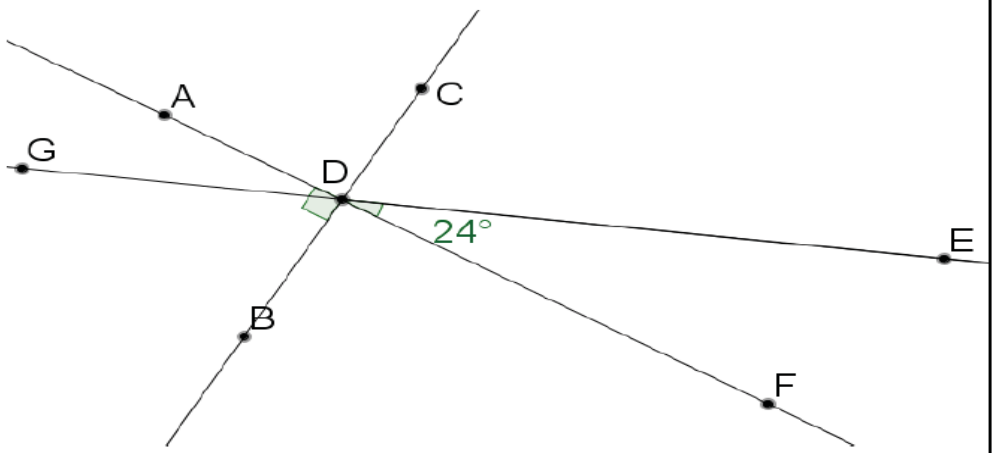
8. If $\angle D$ is vertical to $\angle E$, and $m\angle E = 115°$, then $\angle E$ must be:
   g. Obtuse
   h. Acute
   i. Right

Draw it (Show how you know)

9. In the diagram below, $\angle ADB$ is a right angle. The figure is formed by 3 intersecting lines.

Fill in the measures and justifications in the table:

Angle	Measure	Justification
$\angle CDA$	90°	Supplementary to $\angle ADB$, which is 90.
$\angle ADG$		
$\angle GDB$		
$\angle BDF$		
$\angle EDC$		



10. **Define each of the vocabulary words below. Write in complete sentences. You may use drawings too.**

a. Vertical angles

b. Supplementary angles

c. Complementary angles