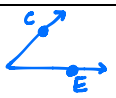
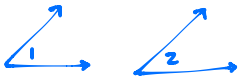
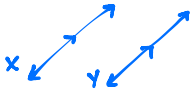
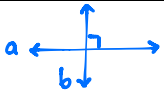
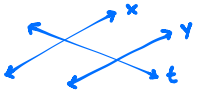
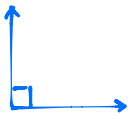
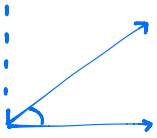
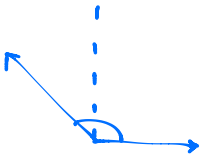
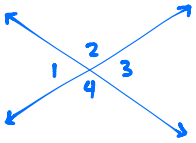
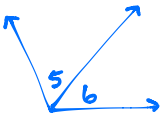
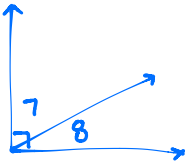
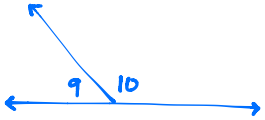
Name: _____ Date: _____ Section 12-1A

12-1A ANGLE RELATIONSHIPS

*use capital letters

Basic Definitions	Picture	Name
A ray is a part of a line that starts at one endpoint and extends forever.		$\overrightarrow{AB}$ *start with vertex
An angle is a figure formed by two rays with a common endpoint called the **vertex** (plural vertices).		∠CDE or ∠EDC or ∠D *vertex must be in middle
Figures are congruent if they have the same shape and size.		$\angle 1 \cong \angle 2$
Parallel lines are lines in a plane that do not intersect.		$l_x \parallel l_y$ "is parallel to"
Perpendicular lines are lines in a plane that intersect to form four right angles.		$l_a \perp l_b$ "is perpendicular to"
Transversal is a line that intersects two or more parallel lines.		l_t

Types of Angles: classified by angle measure			
Right Angle	Acute Angle	Obtuse Angle	Straight Angle
Exactly 90°	Less than 90°	Between 90° and 180°	Exactly 180°
			

Pairs of Angles: related to one another			
Vertical Angles	Adjacent Angles	Complimentary Angles	Supplementary Angles
a pair of opposite congruent angles formed by intersecting lines	two angles that share a common ray and vertex (side by side)	two angles whose measures add up to 90°	two angles whose measures add up to 180°
 $\angle 1 \cong \angle 3$ $\angle 2 \cong \angle 4$	 $\angle 5$ & $\angle 6$	 $m\angle 7 + m\angle 8 = 90°$	 $m\angle 9 + m\angle 10 = 180°$

HW: GM7 p. 677 (6-19 all, 29-36 all)

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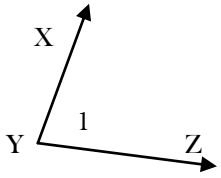
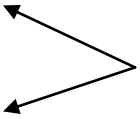
Ex. 1: Name the angle in four ways.

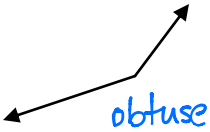


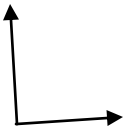
∠XYZ
∠ZYX
∠Y
∠1

Ex. 2: Classify as acute, right, obtuse or straight.

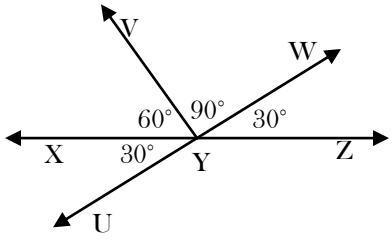
A. 
Straight

B. 
acute

C. 
obtuse

D. 
right

Ex. 3: Determine all the names of the angles in the figure below.



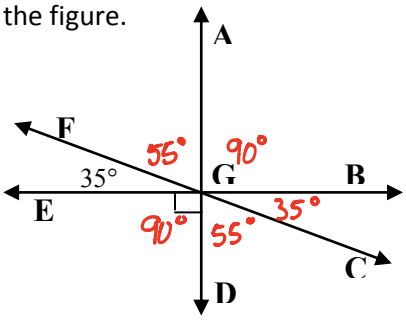
A. ∠UYZ & ∠UYX
adjacent, supplementary

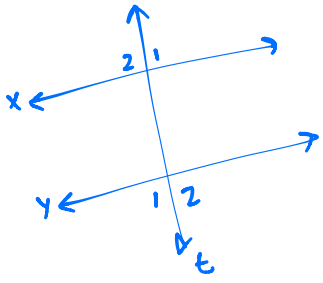
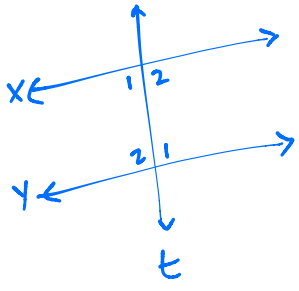
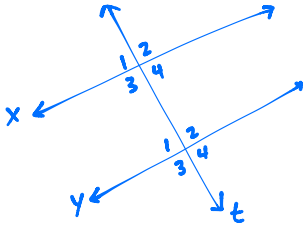
B. ∠WYZ & ∠XYU
vertical, acute

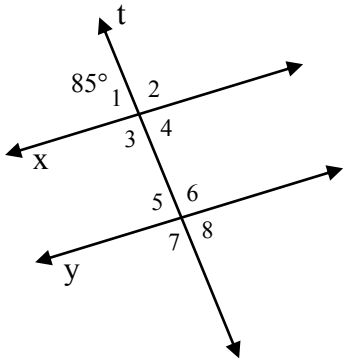
C. ∠XYU & ∠XYV
adjacent, complimentary

D. ∠VYU & ∠WYV
adjacent, supplementary

Ex. 4: If the measure of ∠EGF is 35°, find the measures of each of the other angles in the figure below. Label the figure.



Pairs of Angles: **nonadjacent**		
Alternate Exterior Angles	Alternate Interior Angles	Corresponding Angles
angles that are on the outside of the parallel lines on opposite sides of the transversal	angles that are on the inside of the parallel lines on opposite sides of the transversal	nonadjacent angles that are on same side of the transversal with one inside and one outside the parallel lines
		



HW: GM7 p. 677 (6-19 all, 29-36 all)