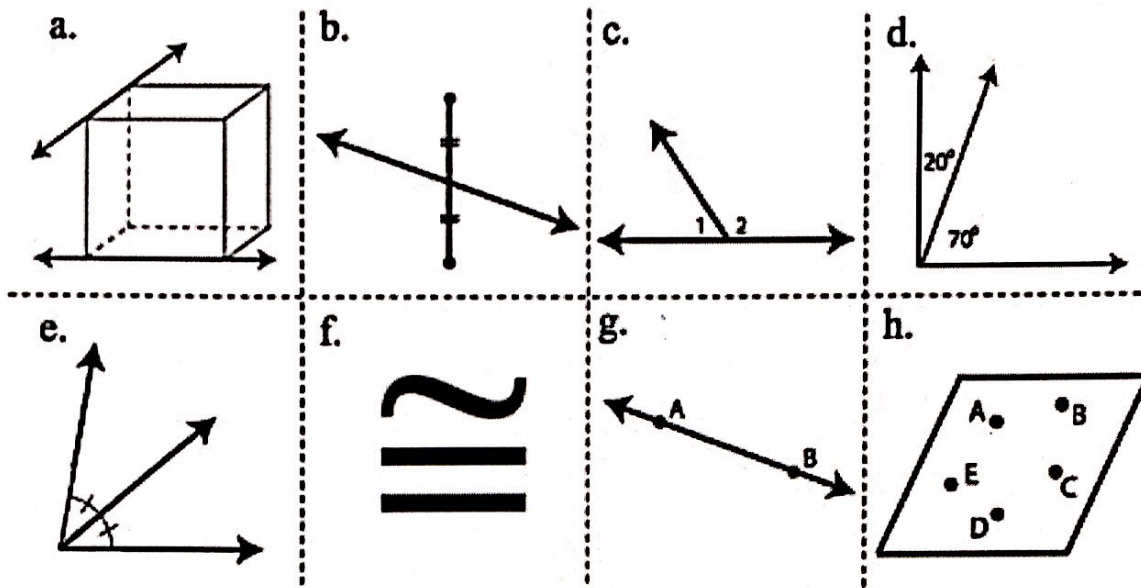


# 6.1 Intro to Geometric Properties

OBI: examine the properties of lines and angles.

Directions: Match each of the following pictures with the vocabulary listed below.



1. G Line AB      2. C Linear Pair Angles      3. H Coplanar points      4. F Congruent (Symbol)
5. A Skew lines      6. D Complementary Angles      7. B Segment bisector      8. E Angle bisector

Important Vocabulary		Picture
Vertical Angles:	Across from each other $\angle 1 \& \angle 4$ , $\angle 2 \& \angle 3$ , $\angle 6 \& \angle 7$	
Corresponding Angles:	Same spot, but on different lines $\angle 1 \& \angle 5$ , $\angle 3 \& \angle 7$	
Alternate Interior Angles:	Inside // lines, on opposite sides $\angle 3 \& \angle 6$ , $\angle 4 \& \angle 5$	
Alternate Exterior Angles:	outside // lines, on opposite sides $\angle 1 \& \angle 8$ , $\angle 7 \& \angle 2$	
Linear Pair:	two angles that form a line $\angle 1 \& \angle 2$ , $\angle 1 \& \angle 3$	
Consecutive Interior Angles:	inside // lines, on same side $\angle 4 \& \angle 6$ , $\angle 3 \& \angle 5$	
Consecutive Exterior Angles:	outside // lines, on same side $\angle 1 \& \angle 7$ , $\angle 2 \& \angle 8$	

\* Supplementary - add to 180°

# \* 180° in a triangle

Directions: Draw and label three types of triangles classified by angles.

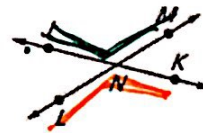
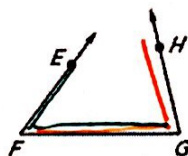
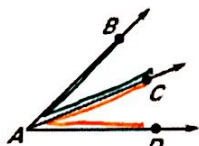
Name:	Acute $\Delta$	Right $\Delta$	Obtuse $\Delta$
Picture:			
Definition:	All 3 angles are less than 90°	Exactly 1 right angle	Exactly 1 angle greater than 90°

Directions: Draw and label three types of triangles classified by sides.

Name:	Isosceles	Equilateral	Scalene
Picture:			
Definition:	2 congruent sides	3 congruent sides	No congruent sides

Are the indicated angles adjacent? \* Next to each other (share a side)

1. Yes  $\angle BAC$  and  $\angle CAD$     2. No  $\angle EFG$  and  $\angle HGF$     3. No  $\angle JNM$  and  $\angle LNK$



Vertical Angles

$\angle 1$  and  $\angle 2$  are complementary angles. Given the measure of  $\angle 1$ , find  $m\angle 2$ .

6.  $m\angle 1 = 52^\circ$ ,  $m\angle 2 = \underline{38^\circ}$     7.  $m\angle 1 = 76^\circ$ ,  $m\angle 2 = \underline{14^\circ}$     8.  $m\angle 1 = 19^\circ$ ,  $m\angle 2 = \underline{71^\circ}$

$\angle 1$  and  $\angle 2$  are supplementary angles. Given the measure of  $\angle 1$ , find  $m\angle 2$ .

9.  $m\angle 1 = 52^\circ$ ,  $m\angle 2 = \underline{128^\circ}$     10.  $m\angle 1 = 76^\circ$ ,  $m\angle 2 = \underline{104^\circ}$     11.  $m\angle 1 = 19^\circ$ ,  $m\angle 2 = \underline{161^\circ}$

**Stair Railing:** A stair railing is designed as shown in the figure.

Use the angles identified in the figure to name two pairs of the indicated type of angle pair.

25. Complementary angles  $\angle 1$  &  $\angle 2$      $\angle 3$  &  $\angle 4$   
 26. Supplementary angles  $\angle 8$  &  $\angle 5$      $\angle 8$  &  $\angle 7$   
 28. Vertical angles  $\angle 5$  &  $\angle 7$      $\angle 6$  &  $\angle 8$   
 29. Linear pair  $\angle 7$  &  $\angle 6$      $\angle 5$  &  $\angle 8$   
 30. Adjacent angles  $\angle 2$  &  $\angle 1$      $\angle 3$  &  $\angle 4$

