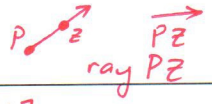
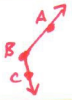
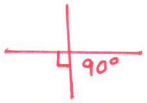
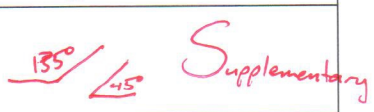
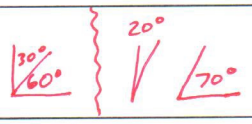
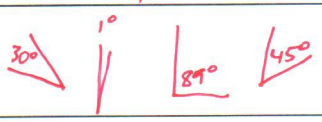
GEOMETRY 11

Name: Key Date: _____ Period: _____

SECTION 11.1 MEASURING ANGLES

VOCABULARY

DEFINITION	EXAMPLE
Ray: Part of a straight line. It has a starting point and continues in only one direction.	
Angle: Formed when two rays share a common endpoint (vertex)	
Vertex: The point shared by two rays forming an angle.	
Degree: An equal part of a circle – there are 360 degrees in a circle, also written 360°	
Perpendicular: When 2 lines meet and form right (90°) angles.	
Supplementary angle: Two angles whose sum is 180°	
Complementary angle: Two angles whose sum is 90°	
Acute angle: An angle with a measure between 0° and 90°	
Obtuse angle: An angle with a measure between 90° and 180°	

Big Idea: How do I measure and classify types of angles?

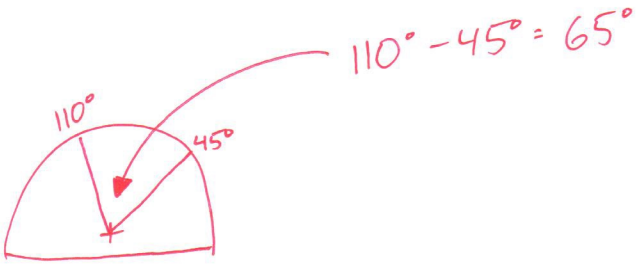
Angles are measured as part of a circle. From its center, a circle can be divided into 360 equal parts. Each part is one **degree** written 1°. A full circle contains 360°. The instrument used to measure angles is called a **protractor**.

How do you measure an angle using a protractor?

Line up one ray with the protractor.
Make sure the vertex is at the center of the semicircle.
Read the measure at the mark that the other ray goes through.
Be careful about acute vs. obtuse angles.

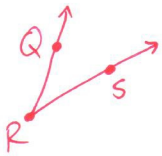
How do you measure an angle whose rays are not on the baseline?

Subtract, as though on a ruler.



How do you name (identify) an angle?

1. A non-vertex point on one ray.
2. Vertex point.
3. A non-vertex point on the other ray.

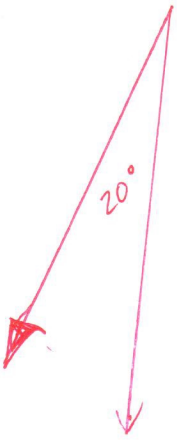


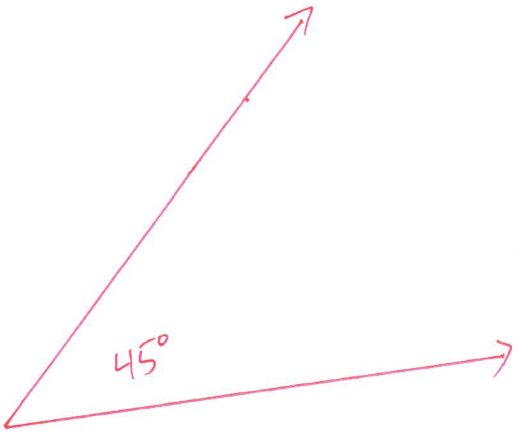
∠QRS or ∠SRQ

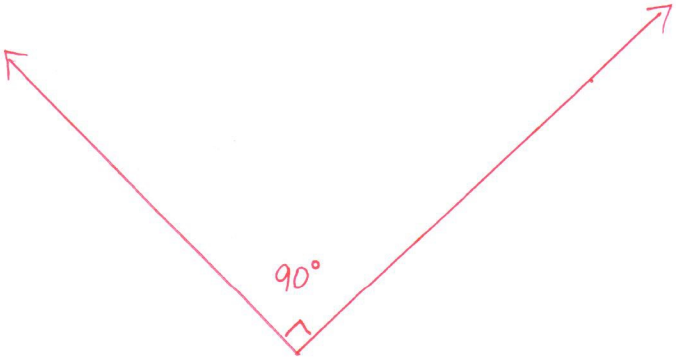
PRACTICE EXERCISES

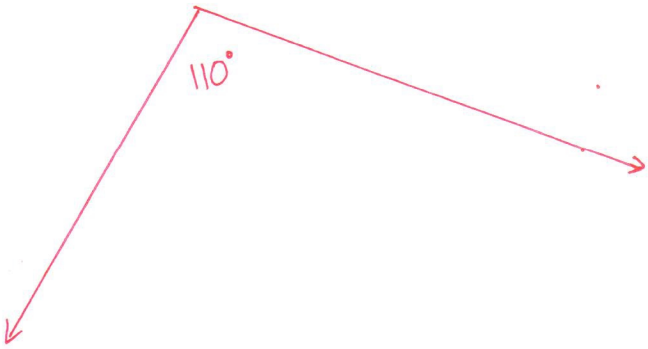
1. Use a protractor to draw the angles below with following measures on a separate sheet of paper:

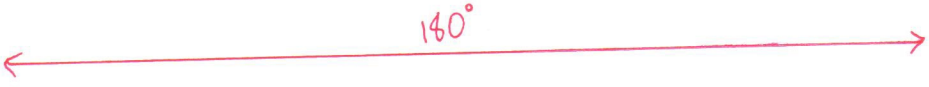
20°, 45°, 90°, 100°, 180°


20°

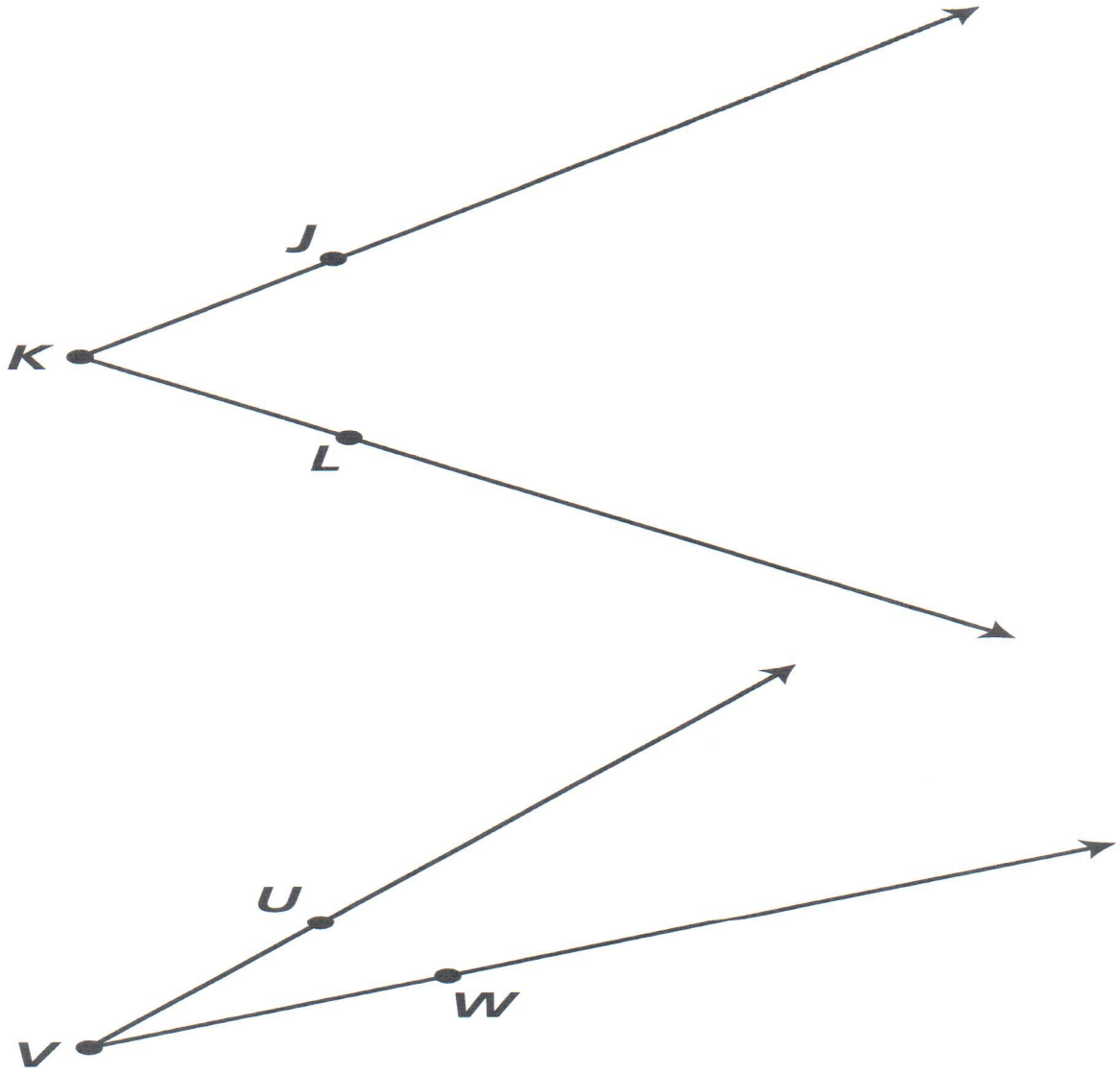

45°


90°


110°


180°

2. Measure each of the angles to the nearest degree and determine their type.



Name: ∠JKL OR ∠LKJ

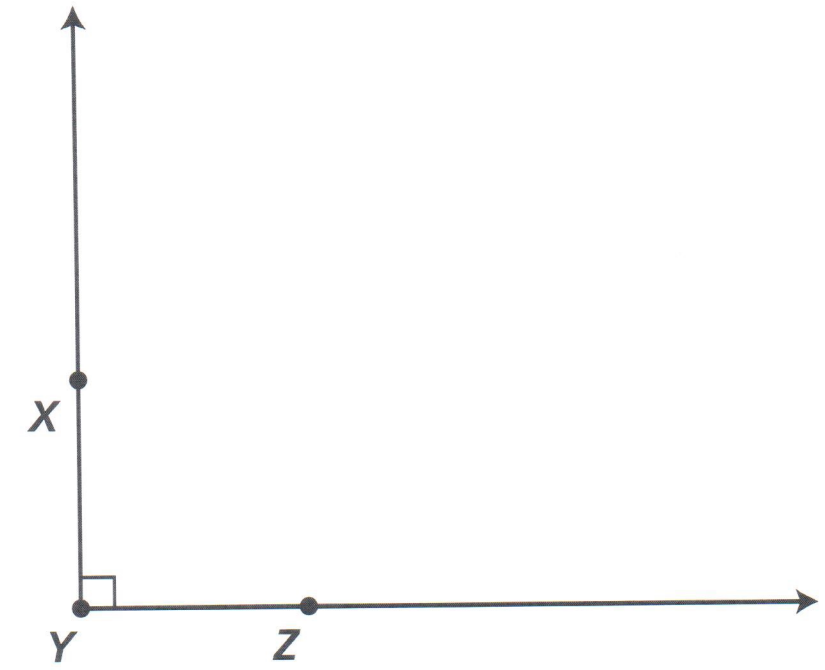
Angle measure: 38°

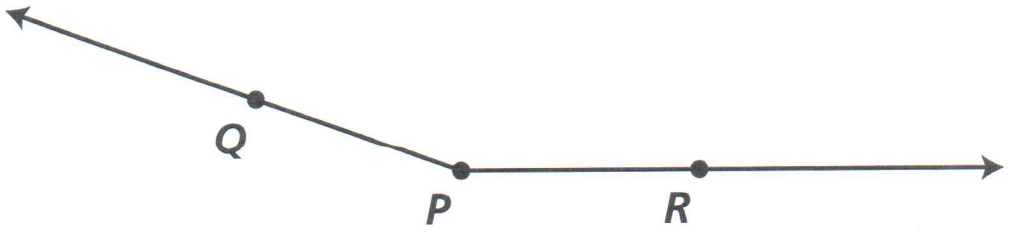
Type: acute

Name: ∠UVW OR ∠WVU

Angle measure: 17°

Type: acute





Name: ∠XYZ or ∠ZYX

Angle measure: 90°

Type: right

Name: ∠QPR or ∠RPQ

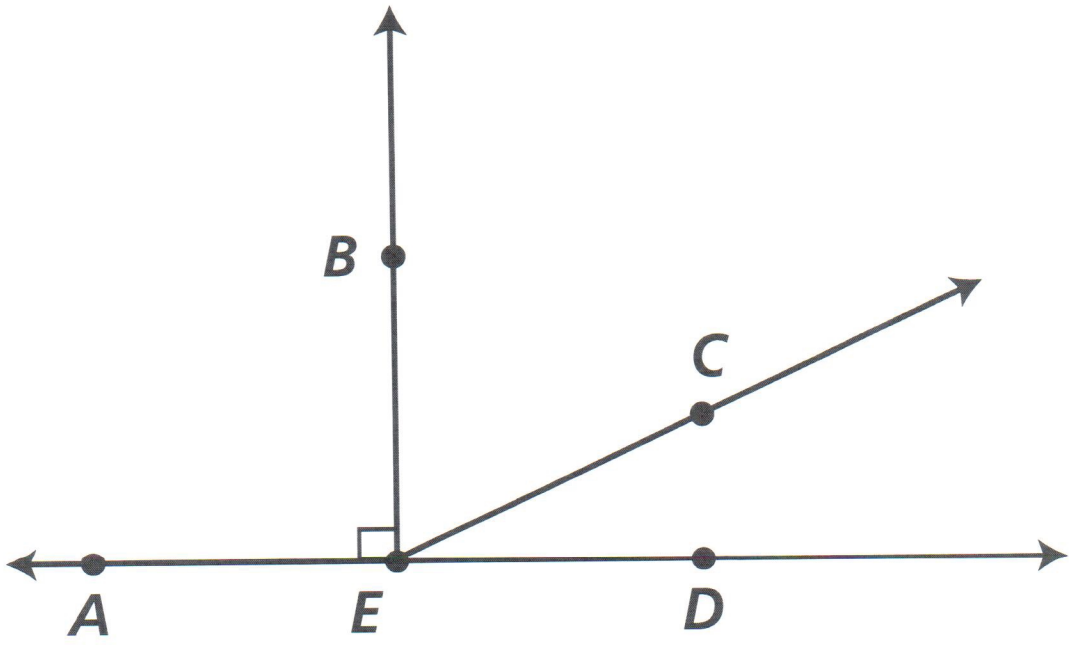
Angle measure: 160°

Type: obtuse

Name: ∠MNO or ∠ONM

Angle measure: 170°

Type: obtuse



3. Use the figure above and

a. Name a pair of supplementary angle : ∠AEB and ∠BED or ∠AEC and ∠CED

b. Name a pair of complementary angle : ∠BEC and ∠CED

c. Name an obtuse angle : ∠AEC

d. Name an acute angle : ∠BEC or ∠CED

4. Given the measure of $\angle B = 20°$,

   a. What is the measure of its complement?

   b. What is the measure of its supplement?

$m\angle B + \text{complement} = 90°$
$20° + \text{complement} = 90°$
$-20° \qquad -20°$
measure of complement $= 70°$

$m\angle B + \text{supplement} = 180°$
$20° + \text{supplement} = 180°$
$20° + \text{supplement} - 20° = 180 - 20°$
measure of supplement $= 160°$

SUMMARY (What I learned today)