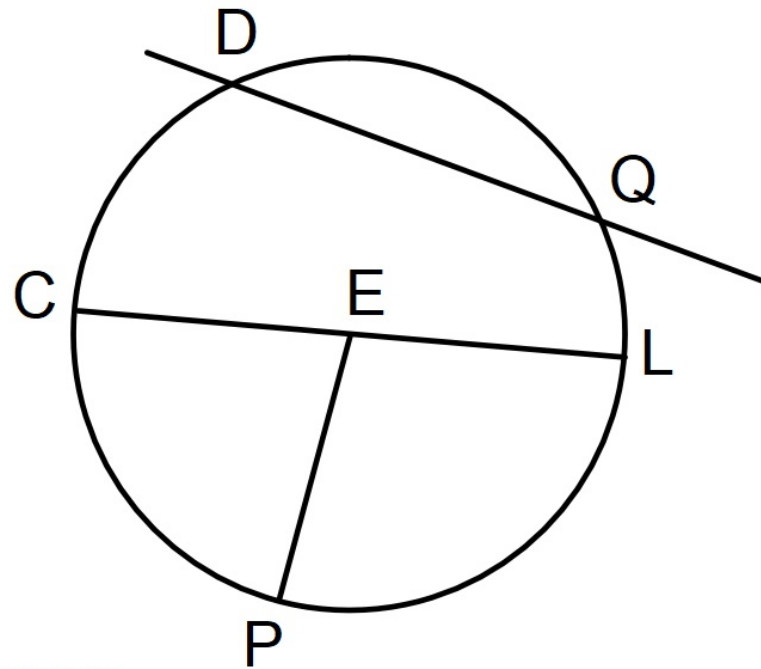


Good afternoon: warm up in notebooks

1. Copy the figure.
2.  $\overline{DQ}$  is a chord. So is  $\overline{CL}$ .  
 $\overline{EP}$  is not a chord.  
What do you think a chord is?
3.  $\widehat{LP}$  is a minor arc.  $\widehat{PDL}$  is a major arc. Give another minor arc and another major arc.



chord: line segment that connects 2 pts on the circumference

arc: part of the edge of a circle

minor arc: arc that is less than  $180^\circ$

major arc: arc is that more than  $180^\circ$

semicircle: arc that is  $180^\circ$

VRG

## HW p12

11.

a.  $\angle QUP$

b. sample:  $\angle PUQ$  and  $\angle QUR$

c. sample:  $\angle QUR$  and  $\angle RUT$

12.  $\overline{QR}, \overline{QJ}, \overline{QT}$

13.  $\overline{RT}$

14.  $\overline{UW}, \overline{RT}$

15. D

16. Right. Sample answer: The sum of the measures of the angles is  $180^\circ$ . The angles have the same measure, so each must measure  $90^\circ$ . Angles that measure  $90^\circ$  are right angles.

17. Sample answers:

a.  $\angle KLQ, \angle MLN, \angle SQR$

b.  $\angle KLM, \angle NLQ, \angle RQP$

c.  $\angle KLN, \angle MLR, \angle SQP$

18.  $m\angle F = 72^\circ, m\angle G = 18^\circ$

19. both connect 2 points on a circle with a line segment. a diameter is merely a chord that passes through the center.

20.

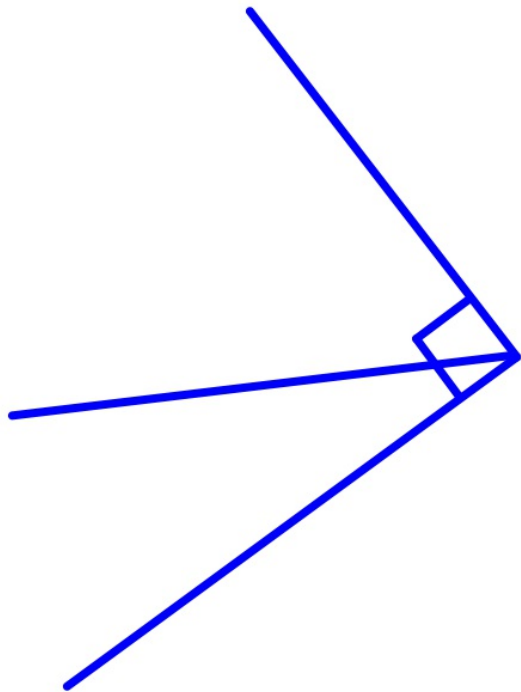
a. both are wrong

b. answers vary

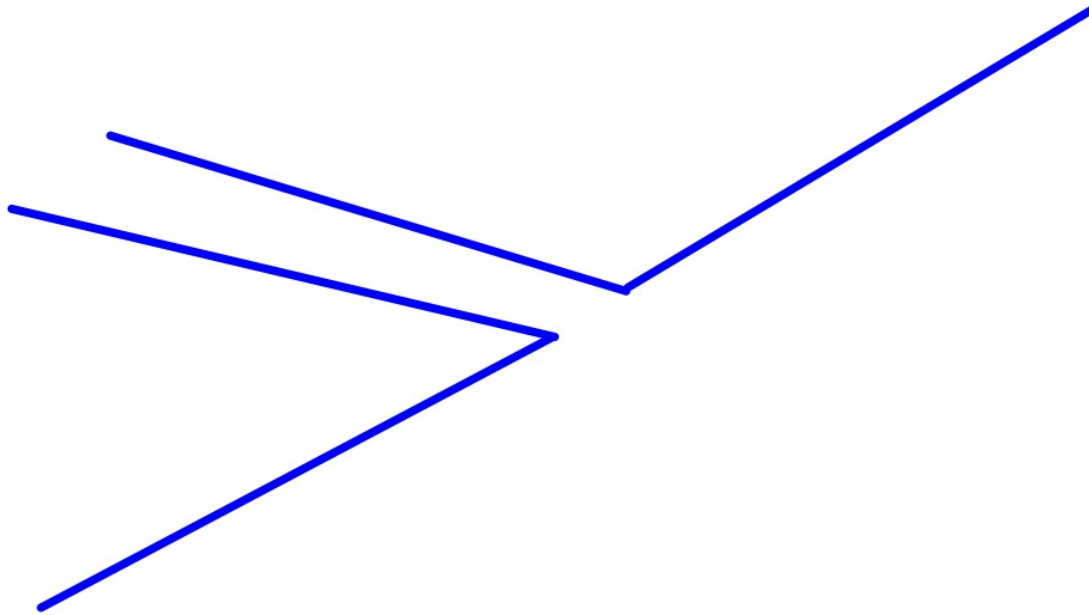
Sharing whiteboard with elbow partner

Alternate who writes each turn

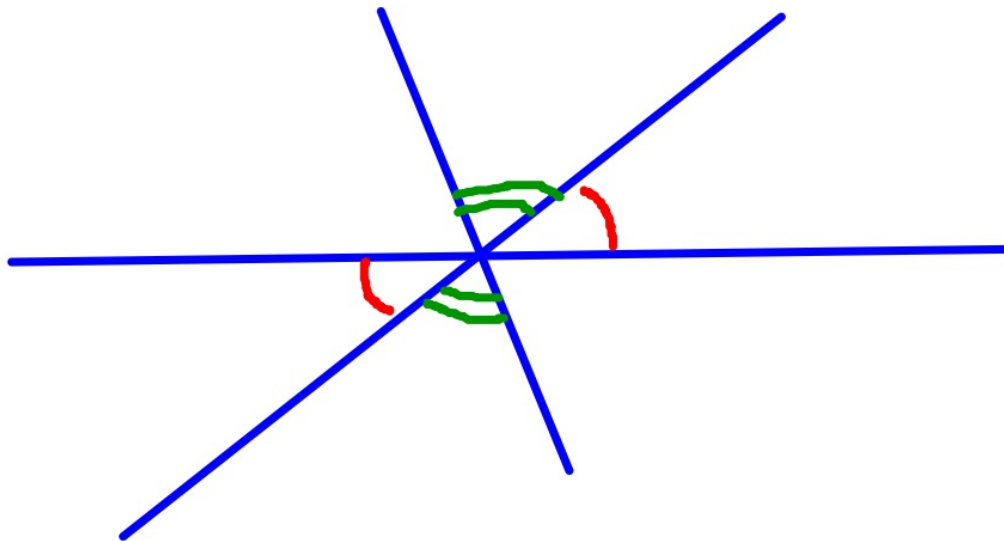
Draw a set of complementary angles



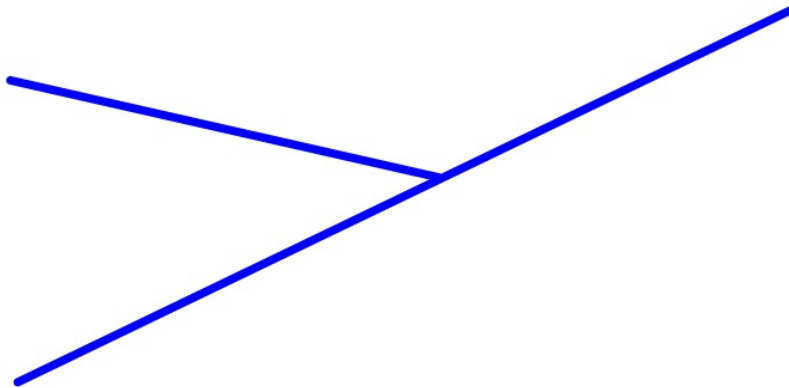
Draw angles that are supplementary, but not adjacent.



Draw three lines that intersect in a single point and identify 2 pairs of vertical angles.



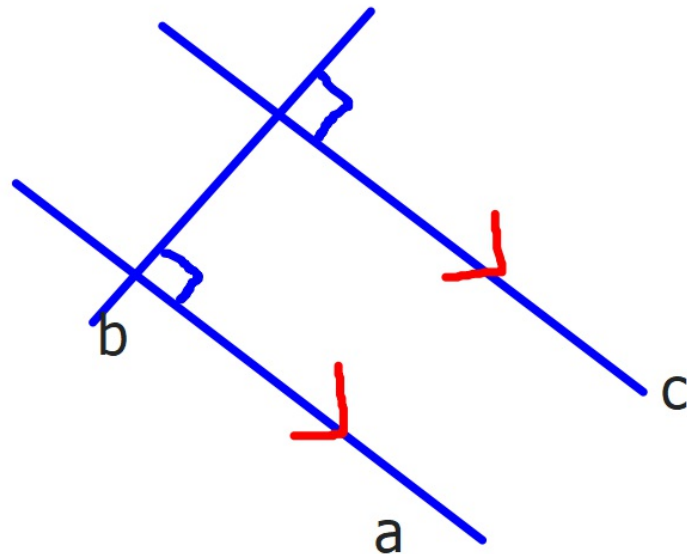
A linear pair is supplementary and adjacent.  
Draw a linear pair.





Draw line  $a$ . Then draw line  $b$ , perpendicular to line  $a$ .  
Then draw line  $c$ , perpendicular to line  $b$ .

What is true of lines  $a$  and  $c$ ?



one person per table collects and returns whiteboards  
one person collects and returns pens  
one person collects and recycles wipes  
one person gets compasses

Our first construction!

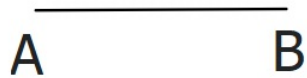
The tools of any geometer: a compass and a straight edge



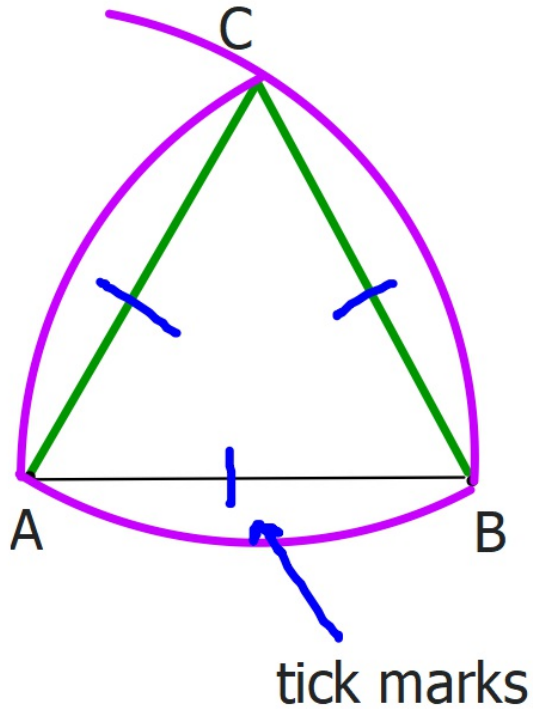
In your notebooks where you have about a third of a page free, place a point and call it A. Be sure there is lots of room around A (don't put it near text).

•  
A

Mark another point B. Use your straight edge and make segment  $\overline{AB}$ .



Compass: needle on A, pencil on B; mark a wide arc above (or below, wherever you have room) segment AB.

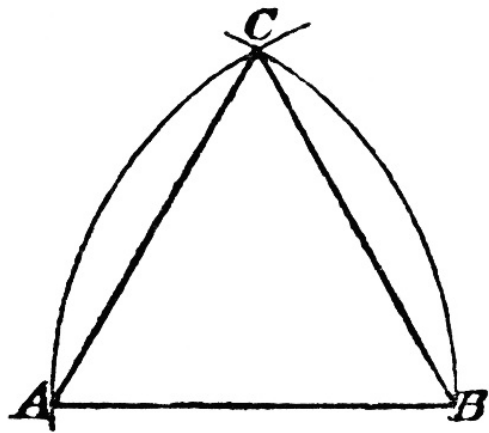


Now place needle on B, pencil on A and mark another arc, intersecting the first.

Mark the intersection point: C

$$\overline{AB} \cong \overline{AC} \cong \overline{BC}$$

symbol for "congruent"  
means 'identical'



Want to make a Reuleaux Triangle?

Needle on *C*, pencil at *A* or *B*, complete the figure with an arc!

Tell your face partner something new  
you learned so far today





## The Perpendicular Bisector Construction

What do these words mean?

perpendicular: crossing at a right angle ( $90^\circ$ )

syn: normal, orthogonal, square

bisector: (verb is "bisect") something that cuts an object into 2 congruent parts

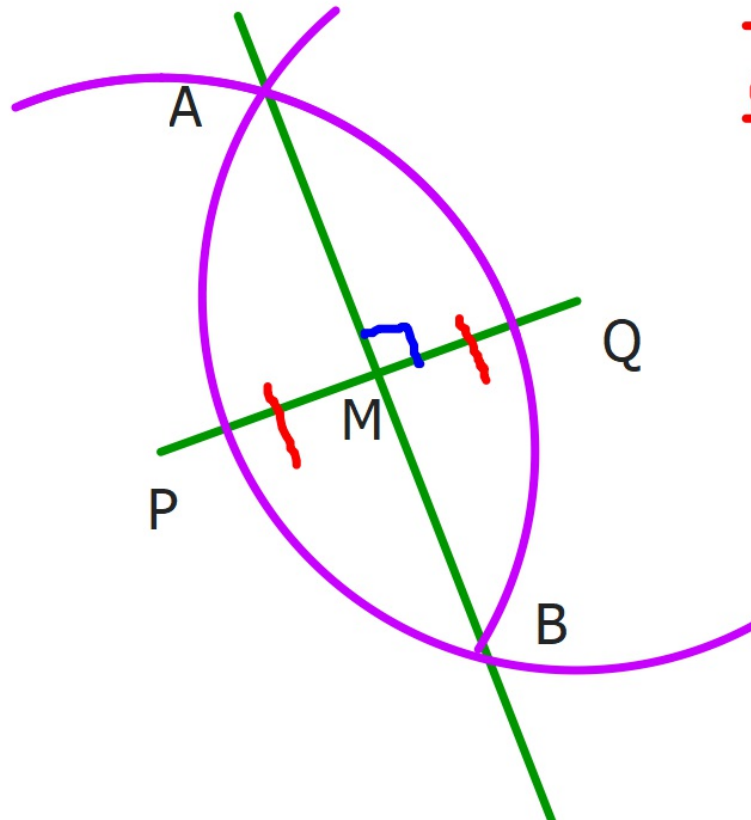
Mark two points P and Q, then construct  $\overline{PQ}$

Needle on P, pencil more than halfway to Q: mark 2 arcs above/below  $\overline{PQ}$

Pick up compass without adjustment, repeat with needle on Q.

Mark two points where arcs cross, call them A and B. Construct  $\overline{AB}$ .

Mark intersection of  $\overline{AB}$  and  $\overline{PQ}$ . Call it M.



$$\overline{PM} \cong \overline{MQ}$$
$$\overline{AB} \perp \overline{PQ}$$

A perpendicular bisector is the set of all points equidistant from the endpoints of a segment

