

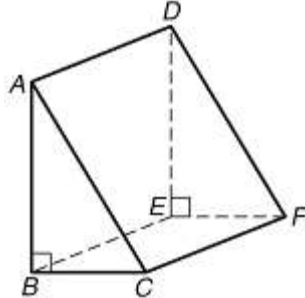
Geometry 1H: Intro to Geometry
Introduction to Geometry

Name _____

Period _____ Date _____

G-CO.1: I can define and identify basic geometric terms.

1. Use the figure below. Assume that lines that look parallel are parallel.



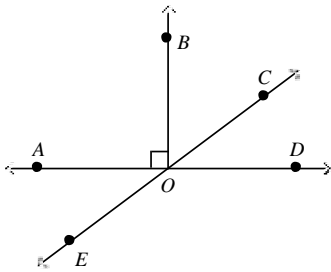
- a) Name a pair of parallel lines

Answers will vary

- b) Name a pair of perpendicular lines

Answers will vary

2. Use the diagram below to answer the following questions.



- 2a) Name a linear pair

Answers will vary

- 2b) Name two complementary angles

Answers will vary

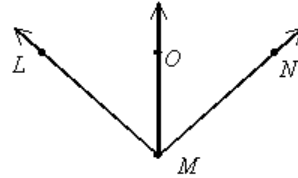
- 2c) Name two supplementary angles

Answers will vary

- 2d) Give at least two pairs of adjacent angles

Answers will vary

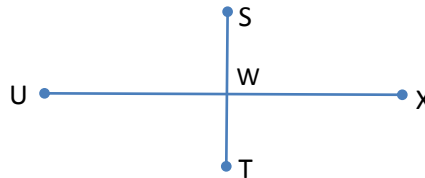
3. In the figure \overline{MO} bisects $\angle LMN$, $m\angle LMO = (9x - 14)^\circ$, and $m\angle NMO = (x + 74)^\circ$. Solve for x and find $m\angle LMN$



$x = 11$

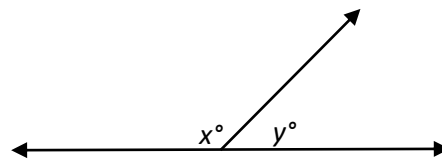
$m\angle LMN = 150$

4. In the figure \overline{ST} bisects \overline{UX} , If $\overline{UW} = 8x - 4$, and $\overline{WX} = 2x + 20$. Solve for x and find \overline{UX}



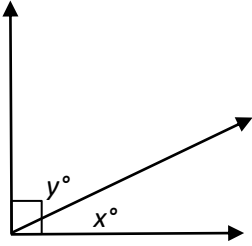
$x = 4$ $UX = 56$

5. If $x > 100$, then what are the possible values of y ?



y is less than 80 but greater than 0

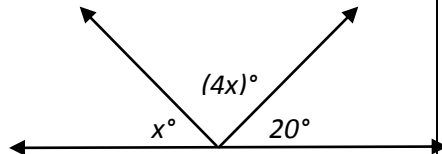
6. If $x < 35$, then what are the possible values of y ?



Y is greater than 55 and less than 90

7. Using the diagram below, find x and explain how you would tell a fellow student to solve it.

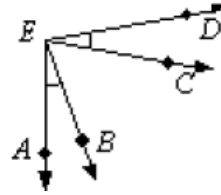
Solve:



$X = 32$

Explain___supplementary angles add up to 180

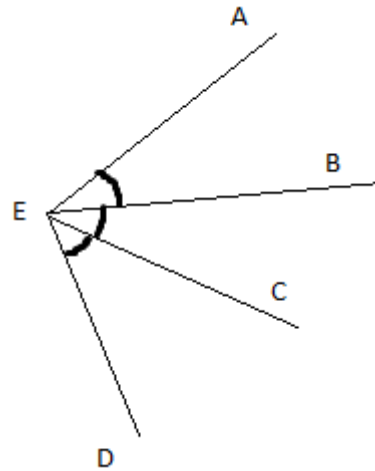
8. Write down as many facts as are observable from the figure below. (Need at least 3)



Answers will vary

9. Part A: Draw a diagram that satisfies these three conditions:

- i. $\angle AEB \cong \angle CED$
- ii. $\angle BEC$ is adjacent to $\angle CED$
- iii. $\angle AEB \cong \angle BEC$

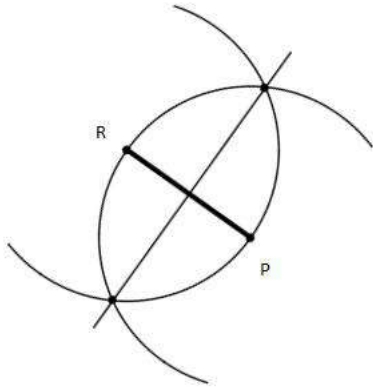


Part B: If $m\angle AEB = 30^\circ$, find $m\angle BEC$, $m\angle CED$ and $m\angle AED$. Justify your answers.

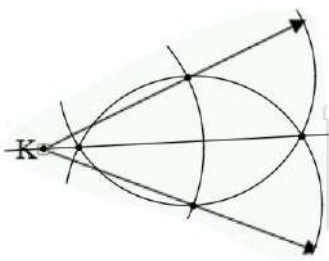
$m\angle BEC = 30$
 $m\angle CED = 30$
 $m\angle AED = 90$

G-CO.12 I can make the following constructions: copy a segment, copy an angle, perpendicular bisector, angle bisector

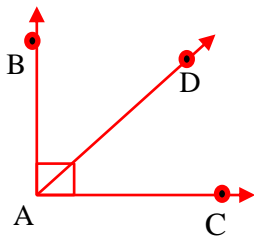
10. Construct the perpendicular bisector of \overline{RP}



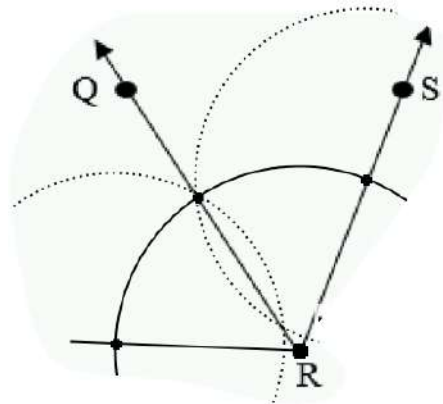
11. Draw acute angle ABC and then construct its bisector. Label all your points.



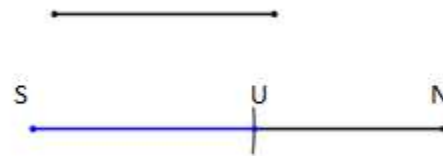
12. Draw a right angle and then construct its bisector. Label all your points. What are the measures of the two smaller angles?



13. Construct a copy of the angle.



14. Use a straightedge and compass to construct a segment that satisfies $SN = 2(SU)$ and that all of the points are collinear. Explain why U is the midpoint of SN?



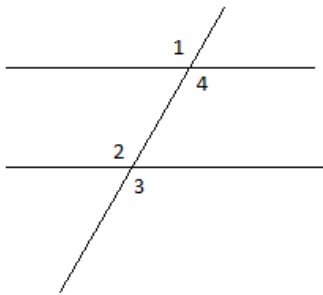
Explain:

SU = UN So U is the midpt

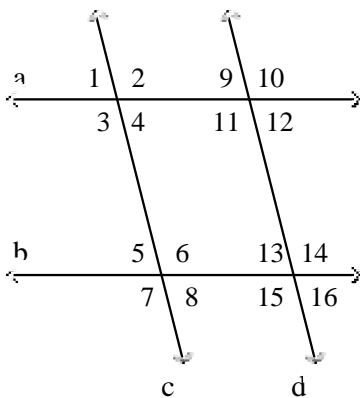
G-CO.9 *I can prove theorems about lines and angles.*

15. Draw a diagram that fits the following criteria: Draw two lines and a transversal such that $\angle 1$ and $\angle 2$ are corresponding angles, $\angle 2$ and $\angle 3$ are vertical angles, and $\angle 3$ and $\angle 4$ are corresponding angles. What type of angle pair is $\angle 1$ and $\angle 4$?

Vertical Angles



16. Which lines, if any, must be parallel based on the given diagram and information. Give the justification for each conclusion. Given: $\angle 13 \cong \angle 12$



a and b

G-GPE.4 *Use coordinates to prove simple geometric theorems algebraically.*

17. Given the following coordinates A (-1.5,4) and B (3,2.5). Find the midpoint and length of AB. Round to the nearest hundredth.

Midpt = (.75,3.75)
AB = 7.91

G-GPE.5 *Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems.*

18. What is the equation of the perpendicular bisector of the segment with endpoints A (-8, -7) and B (-4, 9)?

$y = -1/4x - 1/2$