

Geometry (H) Unit 1 Assessment Topic List

By the end of unit 1, you should be able to...

Section 1.1

- Name points, lines, planes, segments, rays, and opposite rays.
- Identify intersections of lines and planes.

Section 1.2

- Find length of a segment using the Ruler Postulate and the Segment Addition Postulate.
- Compare segments to identify congruent segments.

Section 1.3

- Use distance formula to find lengths of segments.
- Use the midpoint formula to find the midpoint of a segment in the coordinate plane, or identify a missing endpoint given the midpoint and one endpoint.
- Identify and use segment bisectors to solve problems.

Section 1.4

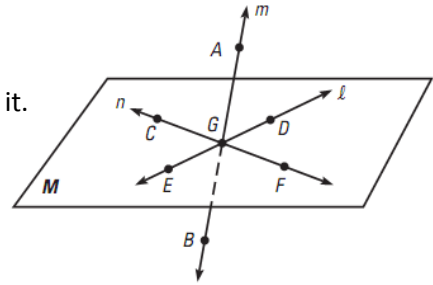
- Name angles, and identify parts of angles.
- Find measures of angles using the Protractor Postulate, Angle Addition Postulate.
- Classify angles by their measure.
- Identify congruent angles, and use angle bisectors to find measures of angles.

Section 1.5/2.7

- Find measures of complementary and supplementary angles
- Use vertical angle theorem and linear pair postulate to find measures of angles

Use the drawing to the right for #1-7. **Use proper notation!**

1. Give two other names for \overleftrightarrow{AB} .
2. Name a line segment found in the sketch. Then state another name for it.
3. Name all rays with endpoint G.
4. Name the intersection of line m and the plane M.
5. Is it possible for two planes that are not the same to intersect in a line? If yes, give a real-world example.
6. Name three points that are coplanar.
7. Name three points that are collinear.
8. Draw a sketch showing a line intersecting two planes which do not intersect.



9. If $EF=2x-12$, $FG=3x-15$, and $EG=23$, find the values of x , EF and FG . The drawing is not to scale.



10. A climber uses a rope to descend a vertical cliff. Let A represent the point where the rope is secured at the top of the cliff, let B represent the climber's position and let C represent the point where the rope is secured at the bottom of the cliff.
 - a. Draw and label a line segment that represents the situation.
 - b. Write the equation for segment addition.
 - c. If AC is 52 feet and AB is 31 feet, how much farther must the climber descend to reach the bottom of the cliff.

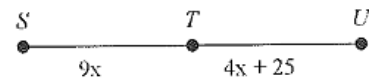
11. Given that the endpoints of \overline{AB} are A(7, 8) and B (4, 2), answer the following:

a) Find the coordinates of the midpoint.

b) What is the length of \overline{AB} ? (Leave answers in simplest radical form)

12. The midpoint of \overline{MN} is P(5,5). One of the endpoints is M(-4,2). Find the coordinate of endpoint N.

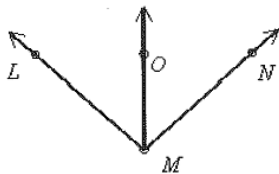
13. If T is the midpoint of \overline{SU} , find the values of x and SU.



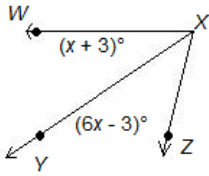
14. Point M is the midpoint of \overline{CF} . Given points C(3,4) and F(9,8), please find MF.

15. Point M is between L and N on \overline{LN} . Use the given information to write an equation in terms of x. Solve the equation. Then find LM and MN. $LM = x^2$, $MN = x$ and $LN = 12$.

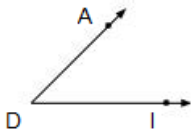
16. \overrightarrow{MO} bisects $\angle LMN$, $m\angle LMN = 5x - 23$, $m\angle LMO = x + 32$. Find $m\angle NMO$. The diagram is not to scale.



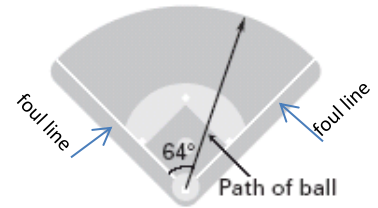
17. Given $m\angle WXZ=84^\circ$, find $m\angle YXZ$.



18. Write 3 names for the angle shown

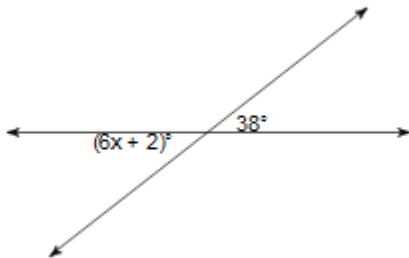


19. The foul lines of a baseball field intersect at home plate to form a right angle. You hit a baseball whose path forms an angle of 64° with the third base foul line (see figure below). What is the angle between the first base foul line and the path of the baseball?

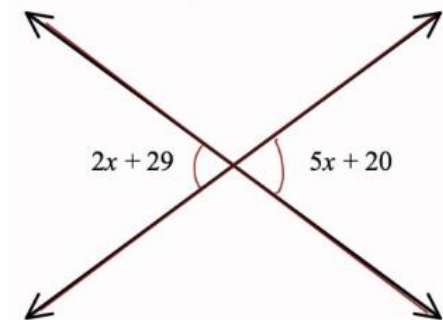


20. Solve for x.

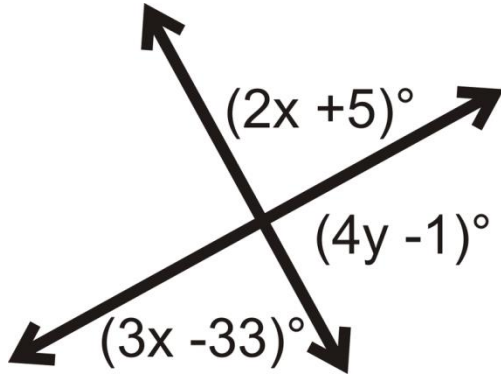
a.



b.



21. Solve for x and y.



22. $\angle 1$ and $\angle 2$ are complementary. If $m\angle 1 = 36^\circ$, what is $m\angle 2$?

23. $\angle 1$ and $\angle 2$ are supplementary. If $m\angle 1 = 36^\circ$, what is $m\angle 2$?

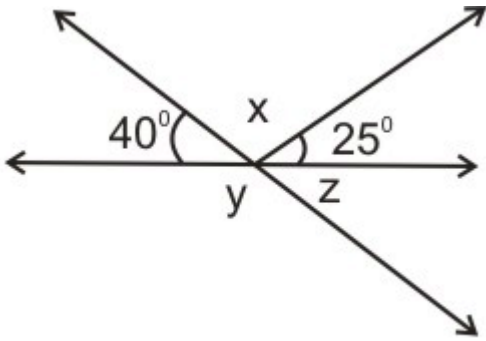
24. The measure of one angle is 2 times the measure of its complement. What are the measures of each of the two angles?

25. The measure of one angle is 5 times the measure of its supplement. What are the measures of each of the two angles?

26. $m\angle 1$ is 114° . If $\angle 1$ and $\angle 2$ are supplementary and $\angle 2$ and $\angle 3$ are complementary, what is the measure of $\angle 3$?

27. $m\angle 1$ is 14° . If $\angle 1$ and $\angle 2$ are complementary and $\angle 2$ and $\angle 3$ are complementary, what is the measure of $\angle 3$?

28. Find the value of x , y , and z .



29. Use the picture below to identify the following angle pairs.

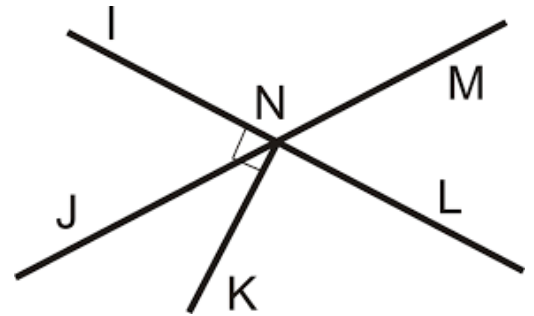
a.) List all linear pairs.

b.) List all vertical angles.

c.) List all complementary angle pairs.

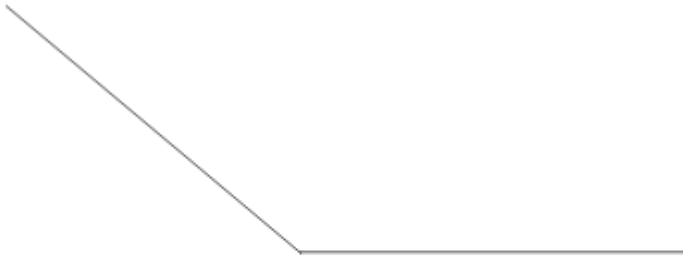
d.) List all supplementary angle pairs.

e.) Write congruency statements for all congruent angles.

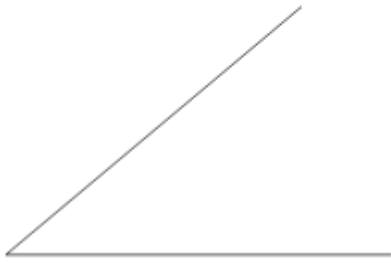


Use a protractor to measure the following angles.

30)



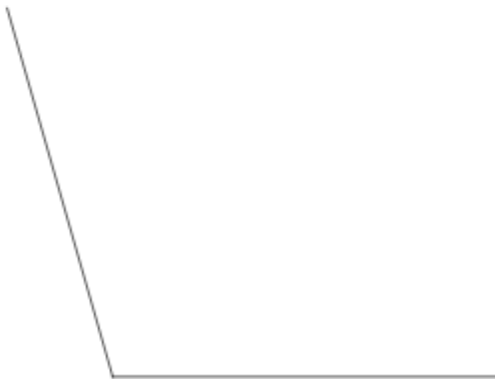
31)



32)



33)



For questions #34-38, use drawing below.

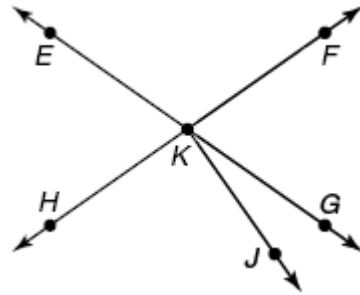
34. Name two acute vertical angles.

35. Name two obtuse vertical angles.

36. Name a linear pair.

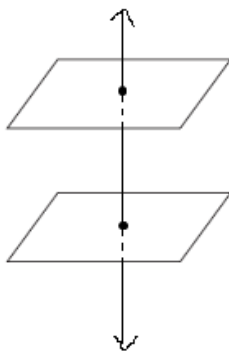
37. Name two acute adjacent angles.

38. Name an angle supplementary to $\angle FKG$.



Answer Key

1. $\overrightarrow{BA}, \overrightarrow{AG}, \overrightarrow{GA}, \overrightarrow{BG}, \overrightarrow{GB}, m$
2. $\overrightarrow{EG}, \overrightarrow{GE}, \overrightarrow{GD}, \overrightarrow{DG}, \overrightarrow{CG}, \overrightarrow{GC}, \overrightarrow{GF}, \overrightarrow{FG}, \overrightarrow{CF}, \overrightarrow{FC},$
 $\overrightarrow{AG}, \overrightarrow{GA}, \overrightarrow{BG}, \overrightarrow{GB}, \overrightarrow{AB}, \overrightarrow{BA}$
3. $\overrightarrow{GC}, \overrightarrow{GE}, \overrightarrow{GB}, \overrightarrow{GF}, \overrightarrow{GD}, \overrightarrow{GA}$
4. G
5. Yes, Floor and wall
6. C, G, E, F, D
7. C, G, F, and E, G, D, and A, G, B
- 8.



9. $X = 10, EF = 8, FG = 15$

10. a.)



b.) $AB + BC = AC$

c.) 21 ft

11. a.) $(\frac{11}{2}, 5)$ or $(5.5, 5)$

b.) $\sqrt{45} = 3\sqrt{5}$

12. (14, 8)

13. $x = 5, SU = 90$

14. $MF \approx 3.6$

15. $LM = 9, MN = 3$

16. 61°

17. 69°

18. $\angle ADI, \angle IDA, \angle D$

19. 26°

20. a.) 6 b.) 3

21. $x = 38, y = 25$

22. 54°

23. 144°

24. $30^\circ, 60^\circ$

25. $30^\circ, 150^\circ$

26. 24°

27. 14°

28. $x = 115^\circ, y = 140^\circ, z = 40^\circ$

29. a) $\angle JNI$ and $\angle INM$

$\angle INM$ and $\angle MNL$

b) $\angle INJ$ and $\angle MNL$

c) $\angle INJ$ and $\angle JNK$

d) $\angle JNI$ and $\angle INM$

$\angle INM$ and $\angle MNL$

e) $\angle INJ \cong \angle MNL$

30. 40°

31. 140°

32. 163°

33. 106°

34. $\angle EKH$ and $\angle FKG$

35. $\angle EKF$ and $\angle HKG$

36. $\angle HKE$ and $\angle EKF$ or $\angle EKF$ and $\angle FKG$

37. $\angle EKH$ and $\angle HKJ$ or $\angle HKJ$ and $\angle JKG$ or
 $\angle JKG$ and $\angle GKF$

38. $\angle FKE$ or $\angle GKH$