

Chapter 1 – Review

These are the terms that you should know for the upcoming test

- | | | | | |
|------------------------|----------------------|---------------------|------------------|------------------|
| • Point | • Line | • Plane | • Collinear | • Coplanar |
| • Space | • Line Segment | • Ray | • Angle | • Degrees |
| • Congruent | • Counterexample | • Right Angle | • Acute Angle | • Obtuse Angle |
| • Midpoint | • Angle Bisector | • Parallel | • Perpendicular | • Complementary |
| • Supplementary | • Vertical Angles | • Linear Pair | • Polygon | • Convex |
| • Concave | • Triangle | • Quadrilateral | • Pentagon | • Hexagon (etc.) |
| • Consecutive Vertices | • Consecutive Angles | • Consecutive Sides | • Perimeter | • Diagonal |
| • Equilateral | • Equiangular | • Regular Polygon | • Right Triangle | • Acute Triangle |
| • Obtuse Triangle | • Scalene | • Isosceles | • Median | • Altitude |

Use the figure at the right for #1–4. Note that line r pierces the plane at X . It is not coplanar with V .

1. What are two other ways to name \overleftrightarrow{QX} ?

\overleftrightarrow{XQ} , \overleftrightarrow{RX} , \overleftrightarrow{XR} , \overleftrightarrow{RQ} , \overleftrightarrow{QR} ...

2. What are two other ways to name plane V ?

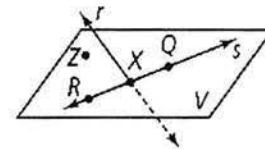
Plane ZRX , Plane ZRQ ...

3. Name three collinear points.

Points R , X , and Q

4. Name four coplanar points.

Points Z , R , X , and Q



For # 5–9, determine whether each statement is *always* (A), *sometimes* (S), or *never* (N) true.

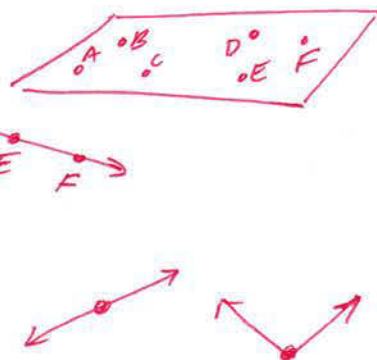
5. Plane ABC and plane DEF are the same plane. S

6. \overleftrightarrow{DE} and \overleftrightarrow{DF} are the same line. S

7. Plane XYZ does not contain point Z . N

8. All the points of a line are coplanar. A

9. Two rays that share an endpoint form a line. S

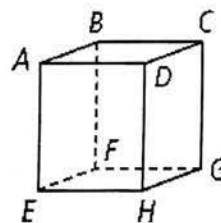


Name the intersection of each pair of planes. To start, identify the points that both planes contain.

10. planes DCG and EFG \overleftrightarrow{GH}

11. planes EFG and ADH \overleftrightarrow{EH}

12. planes BCG and ABF \overleftrightarrow{BF}



13. $GH = 7y + 3$, $HI = 3y - 5$, and $GI = 9y + 7$.



a. What is the value of y ?

$$(7y+3) + (3y-5) = 9y+7$$

$$10y-2 = 9y+7$$

$$y = 9$$

b. Find GH , HI , and GI

$$\begin{aligned} GH &= 66 \\ HI &= 22 \\ GI &= 88 \end{aligned}$$

14. On a number line, suppose point X has a coordinate of 5 and $XY = 10$. What are the possible coordinates of point Y ?



15. If $RO = 5x$ and $RQ = 12x - 20$, find the value of x . Then find RO , OQ , and RQ .

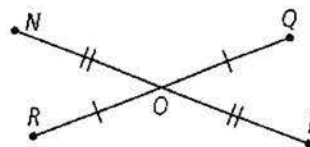
$$5x + 5x = 12x - 20$$

$$10x = 12x - 20$$

$$20 = 2x$$

$$10 = x$$

$$\begin{aligned} RO &= 50 \\ OQ &= 50 \\ RQ &= 100 \end{aligned}$$



Use the diagram at the right. Complete each statement.

16. $\angle MIG \cong \angle KIH$

17. $\angle PMJ \cong \angle LGH$

18. If $m\angle KJL = 30^\circ$, then $m\angle MJL = 30^\circ$.

19. If $m\angle LMP = 100^\circ$, then $m\angle QHG = 100^\circ$.

Find the measure of each angle.

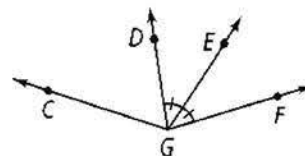
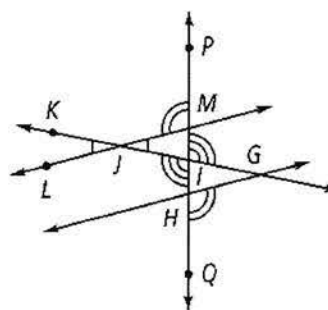
20. $m\angle CGD = 4x + 2$, $m\angle DGE = 3x - 5$, $m\angle EGF = 2x + 10$

$$m\angle DGE = m\angle EGF$$

$$3x - 5 = 2x + 10$$

$$x = 15$$

$$\begin{aligned} m\angle CGD &= 62^\circ \\ m\angle DGE &= 40^\circ \\ m\angle EGF &= 40^\circ \end{aligned}$$



Use the diagram at the right. Is each statement true? Explain.

21. $\angle 5$ and $\angle 4$ are supplementary angles.

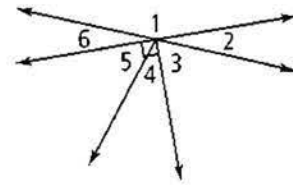
No. They are complementary.

22. $\angle 6$ and $\angle 5$ are adjacent angles.

Yes. They have a common side and vertex.

23. $\angle 1$ and $\angle 2$ are a linear pair.

Yes. They are adjacent and their non-common sides are opposite rays.



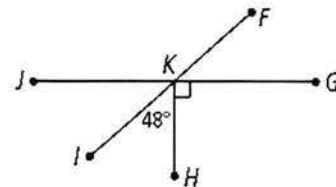
In the diagram at the right, $m\angle HKI = 48^\circ$. Find each of the following.

24. $m\angle HKJ$ *90°*

25. $m\angle IKJ$ *42°*

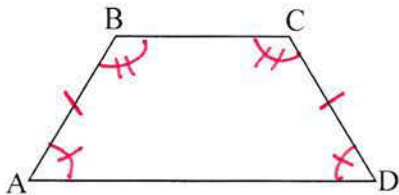
26. $m\angle FKG$ *42°*

27. $m\angle FKH$ *132°*

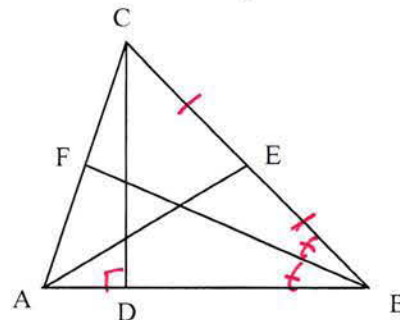


Mark the diagram to indicate the given information.

28. $AB = CD$; $m\angle A = m\angle D$; $m\angle B = m\angle C$



29. Point E is the midpoint of \overline{CB} , $\angle CDA$ is a right angle, and \overline{FB} is an angle bisector.



Match each statement with the correct letter on the left.

- | | |
|------------------------------|--------------------|
| a. \overline{AB} | b. collinear |
| c. right | d. coplanar |
| e. \overleftrightarrow{AB} | f. protractor |
| g. obtuse | h. \overline{BA} |
| i. acute | j. \overline{AB} |
| k. \overline{AB} | l. parallel |

30. *f* The tool used to measure angles in degrees

31. *k* A line segment with endpoints A and B

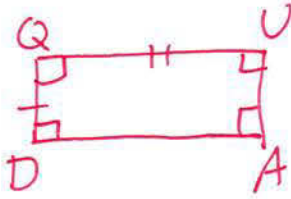
32. *b* Three or more points on a line

33. *i* An angle whose measure is less than 90°

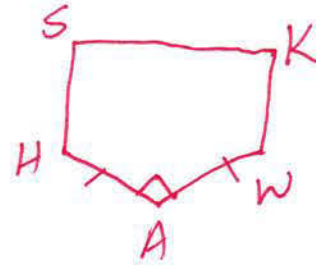
34. *a* A ray starting at point A and passing through point B

SKETCH the following without the use of a geometric tool.

35. Equiangular quadrilateral QUAD with $QU \neq QD$



36. Pentagon HAWKS with $HA = AW$ and $m\angle HAW = 90^\circ$.

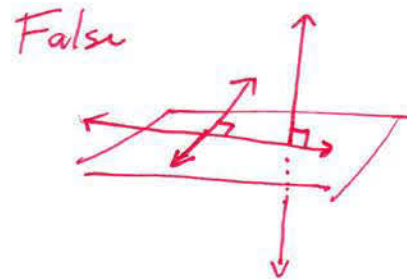


TRUE or FALSE

37. If two planes do not intersect, then they are skew.

False. They are parallel planes.

38. If two lines are perpendicular to the same line, then they are parallel.



Sketch a triangle that fits the name. If impossible, write *not possible*.

39. Obtuse Isosceles Triangle



40. Scalene isosceles triangle

Not possible