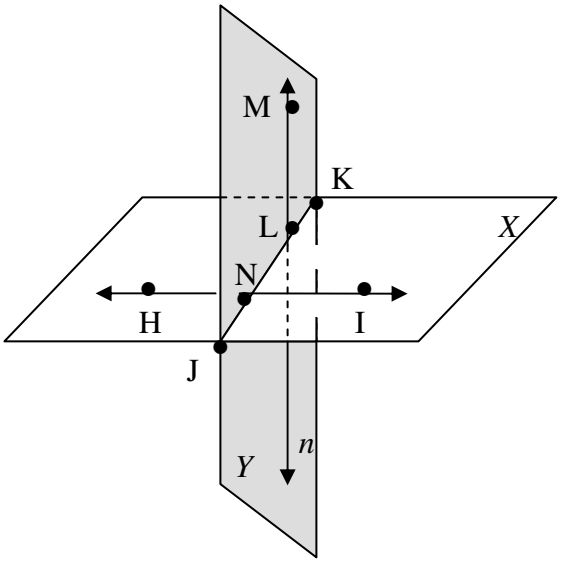
Chapter 1 Review

For the vocabulary section you must know the following terms:

Undefined Terms	Space	Point	Opposite Rays	Intersection
Congruent	Line	Ray	Midpoint	Postulate
Collinear points	Length	Bisector	Plane	Line segment
Coplanar Points	Angle	Acute angle		Right angle
Obtuse angle	Straight angles			Congruent angles
Adjacent angles	Angle bisector			



Use the diagram at the left to answer the following

1) name the intersection of plane *X* and plane *Y*.

2) Line HI intersects plane *Y* in what point?

3) Line NL is contained in which plane(s)?

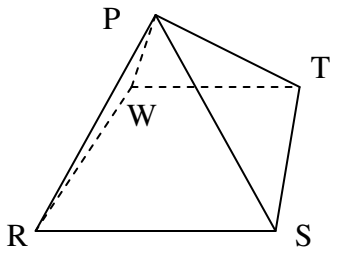
4) Does line MH exist? Explain.

5) Name three coplanar points.

6) What is another name for Line ML?

7) Name two lines that intersect.

8) Name three collinear points.



Use the pyramid at the left to answer the following.

9) name five planes of the pyramid

10) name two planes that intersect in line PW.

11) name a line and a plane that intersect in point S

12) name three lines that intersect in point T.

Use the given diagram to answer the following questions.

B is the midpoint of $\overline{AC}$

13) By the segment addition postulate, DB + BE = _____

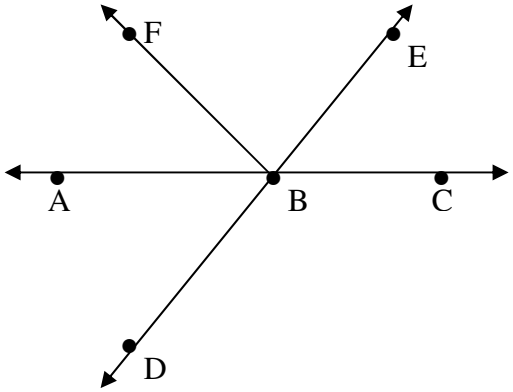
14) If AB = 7, then BC = _____

15) If DB = BE then $\overrightarrow{BF}$ is a _____

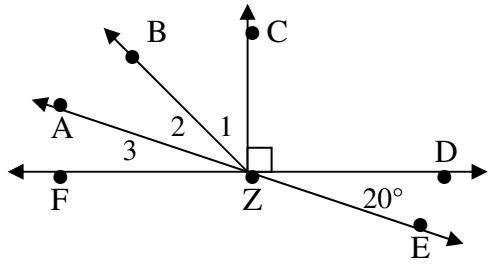
16) The ray opposite ray BD is _____

17) If segment AB = x, segment BC = 3x – 12, then x = _____

18) If EB = 2x + 5, BD = 5x – 3 and ED = 23, then x = _____



Use the given diagram to answer the following. You can assume that a line that looks straight is straight (line AE and line FD are straight lines).



19) < 2 and < 3 are adjacent. Name their common vertex and side.

20) < 1 is adjacent to acute < _____.

21) m< DZE = _____°,
m< CZD = _____°, m< CZF = _____°

22) If $\overrightarrow{ZB}$ bisects < AZC, then
m<_____ = m<_____ = _____°

23) m< 1 + m< 2 + m< 3 = _____°

24) If m< 3 = 20°, m< 2 = 3x – 5,
and m< 1 = 2x + 10. then x = _____

For the following statements decide whether they are true or false then state the postulate or theorem that supports your answer.

25) Two points can determine two lines.

26) A line and a point not on the line determine one plane.

27) Any three points lie together in one and only one plane.

28) Two intersecting lines determine a plane.

29) It is possible for points P and Q to be in plane *R* but line PQ is not.

30) Two planes can intersect at a single point.

Answer Key:

1) $\overleftrightarrow{JK}$ (could be any two letters on that line as well)
2) N
3) plane *X* and plane *Y* (could also be named with any three non-collinear points on those planes)
4) yes, any 2 points define a line
5) any three non-collinear points on one plane (ex. H, I, L or M, N, J)
6) line *n*
7) $\overleftrightarrow{HI}$ and $\overleftrightarrow{JK}$ or $\overleftrightarrow{JK}$ and $\overleftrightarrow{ML}$
8) J, N, L, K or H, N, I
9) $\square TPS, \square SPR, \square WPR, \square TPW, \square WTS$
10) $\square TPW$ and $\square RPW$
11) $\overleftrightarrow{ST}$ and $\square PRS$ or $\overleftrightarrow{RS}$ and $\square PTS$ or $\overleftrightarrow{PS}$ and $\square TSR$
12) $\overleftrightarrow{PT}$, $\overleftrightarrow{ST}$, $\overleftrightarrow{WT}$
13) DE
14) 7
15) segment bisector
16) $\overleftrightarrow{BE}$
17) x = 6
18) x = 3
19) common vertex: Z common side: $\overleftrightarrow{ZA}$
20) < 2
21) 20°, 90°, 90°
22) m< 1 = m< 2 = 35°
23) 90°
24) x = 13
25) false, postulate 6
26) true, theorem 1-2
27) false, postulate 7
28) true, theorem 1-3
29) false, postulate 8
30) false, postulate 9