

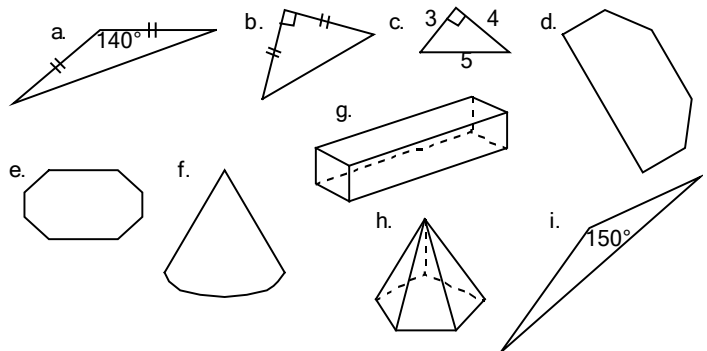
Chapter 1 & 2 – Final Review

Identify each statement as true (T) or false (F)

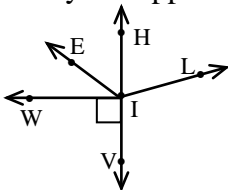
- 1) _____ The ray from R through points P or Q is written in symbolic form as \overrightarrow{RQ} or \overrightarrow{RP} .
- 2) _____ The line segment from P to Q is written in symbolic form as \overline{RP} .
- 3) _____ The building blocks of geometry are points, lines, and rays.
- 4) _____ An obtuse angle is an angle whose measure is more than 180° .
- 5) _____ An altitude in an acute triangle is a perpendicular segment connecting a vertex with the opposite side.
- 6) _____ A diagonal is a line segment in a polygon connecting any two vertices.
- 7) _____ If \overleftrightarrow{AB} intersects \overleftrightarrow{CD} at point P, then $\angle APC$ and $\angle APD$ have to be a pair of vertical angles.
- 8) _____ If the sum of the measures of two angles is 90° , then the two angles are supplementary.
- 9) _____ If two lines do not intersect, then they are parallel.
- 10) _____ If two lines lie in the same plane are perpendicular to the same line, then they are parallel.
- 11) _____ A polygon with six sides is called a heptagon.

Match each term with its drawing below.

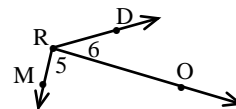
- 12) Isosceles right triangle _____
- 13) Obtuse scalene triangle _____
- 14) Octagon _____
- 15) Hexagon _____
- 16) Right scalene triangle _____



- 17) Name a pair of angles that are adjacent, but not complementary or supplementary.
- 18) Name all angles with R as their vertex.



- a) $\angle HIW$ and $\angle HIE$
- b) $\angle HIE$ and $\angle LIV$
- c) $\angle HIW$ and $\angle VIW$
- d) $\angle EIH$ and $\angle HIL$

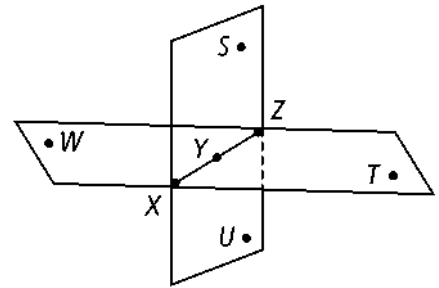


- a) $\angle 5$, $\angle 6$, $\angle 7$
- b) $\angle DRO$, $\angle MRD$, $\angle ORM$
- c) $\angle ORD$, $\angle MRD$, $\angle ROM$
- d) $\angle M$, $\angle O$, $\angle D$

For #19-21, determine whether each statement is *always* (A), *sometimes* (S), or *never* (N) true.

- 19) A plane contains only three points. _____
- 20) Three noncollinear points are contained in only one plane. _____
- 21) If three points are coplanar, they are collinear. _____

Use the diagram at the right for #22–24.



- 22) What is the intersection of the two planes?
- 23) What plane contains points W, X, and Y?
- 24) Are points T, Z, W, and U coplanar or noncoplanar?

For #25 & 26, sketch, mark and label each figure

- 25) Isosceles obtuse $\triangle MRD$ with $MR = MD$ and median \overline{ME}
- 26) A hexagon SMILEY with vertices Y, M, and L joined to form isosceles $\triangle YML$
- 27) If $m\angle 1 = 9x$ and $m\angle 2 = 3x$. Find the value of x if $\angle 1$ and $\angle 2$ are supplementary.
- 28) $\angle 1$ is complementary to $\angle 3$, $\angle 2$ is complementary to $\angle 3$. If $m\angle 2 = x + 24$ and $m\angle 3 = 8x - 6$, find $m\angle 1$.

Find the missing two terms in the sequence.

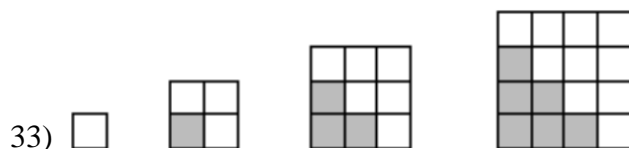
29) 3, 6, 9, 15, 24, 39, _____ , _____

30) 1, 2, 5, 14, 41, 122, _____ , _____

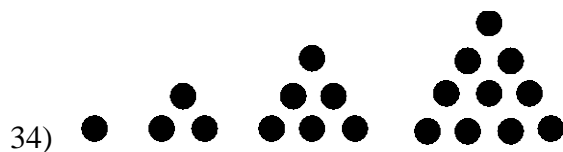
31) 0, 2, 6, 12, 20, 30, _____ , _____

32) $1, \frac{2}{3}, \frac{4}{9}, \frac{8}{27}, \text{_____} , \text{_____}$

Draw the next shape in each pattern.



35) Find a counterexample to disprove the conjecture: "If the quotient of two numbers is positive, then the two numbers must be positive."



36) Write the indicated form of the following statements.

Afterwards, state if it's true or false.

"A square is a regular polygon."

If-then:

Converse:

Inverse:

Contrapositive:

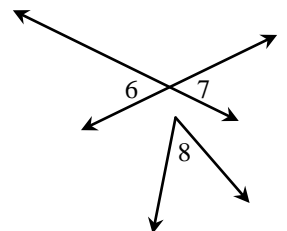
In #37-39, determine the logical conclusion and state which law you used: Law of Detachment (LOD), Law of Contrapositive (LOC), or Law of Syllogism (LOS). If no conclusion can be drawn, write “no conclusion.”

- 37) If you live in San Francisco, then you’ve seen the Golden Gate Bridge. Unfortunately, Josh has not seen the Golden Gate Bridge.
- 38) If a quadrilateral is a square, then it has four right angles. If a quadrilateral has four right angles, then it is a rectangle.
- 39) If three points lie on the same line, they are collinear. Points A , B , and C lie on line k .
- 40) Write the definition of an equiangular polygon as a single biconditional statement.

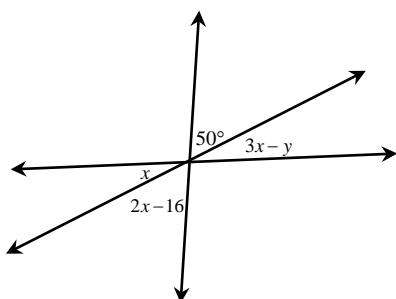
- 41) Complete the following truth table.

p	q		$\sim p \wedge q$

- 42) Suppose you already stated that $\angle 6 \cong \angle 7$ and $\angle 7 \cong \angle 8$. What property of congruence justifies the conclusion that $\angle 6 \cong \angle 8$?



- 43) Find the value of x and y for each diagram. (Not necessarily drawn to scale). Show all algebraic work.



Complete the following proofs:

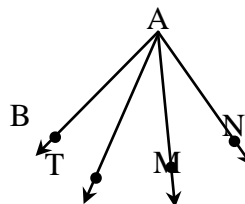
44) Given: $BR = UP$



Prove: $BU = RP$

Statement	Reasons
1. $BR = UP$	
2. _____ = $BU + UR$; _____ = $UR + RP$	
3. $BU + UR = UR + RP$	
4. $UR = UR$	
5. _____	

45) Given: $m\angle BAT = m\angle MAN$



Prove: $m\angle BAM = m\angle TAN$

Statement	Reasons
1. $m\angle BAT = m\angle MAN$	
2. $m\angle TAM = m\angle TAM$	
3. $m\angle BAT + m\angle TAM = m\angle TAM + m\angle MAN$	
4. $m\angle BAM = m\angle BAT + m\angle TAM$ $m\angle TAN = m\angle TAM + m\angle MAN$	
5. $\therefore m\angle BAM = m\angle TAN$	