

Final Review – Chapter 1 - Homework

Part A

Find the missing term in the sequence.

1. 4, 8, 12, 16, _____, _____

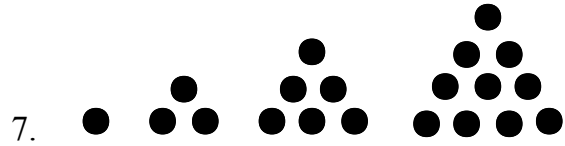
2. -5, 3, -2, 1, -1, 0, _____, _____

3. 1, 5, 14, 30, 55, _____, _____

4. 1, 3, 7, 15, 31, 63, _____, _____

Algebra Review: Simplify.

5. $-5(x - 4)^2 + 8x - 6(x + 7)$



8. List the three steps of inductive reasoning:

a. _____

b. _____

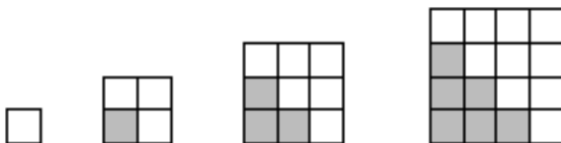
c. _____

9. What is a conjecture that can be proven?

10. What's the difference between the converse and the inverse of a conditional statement?

Draw the next shape in each pattern.
(1 pt each)

6.



11. Write the following for the following statement: "An angle whose measure is 34° is an acute angle".

If-then form:

Converse:

15. What's the difference between inductive and deductive reasoning?

Inverse:

Contrapositive:

16. What is the Segment Addition Postulate? (Use words and a drawing to help you.)

12. Write the definition of an equiangular polygon as a single biconditional statement.

17. State the Plane Intersection Postulate.

13. Use the Law of Detachment to make a valid conclusion. "If an angle is more than 90° , then it is an obtuse angle. $\angle M$ is 90° ."

18. In a conditional, what parts are the conclusion and the hypothesis?

14. Use the Law of Syllogism to write the statement that follows from the following:

If $x = 3$, then $2x = 6$

If $4x = 12$, then $x = 3$

In exercises 19-25. Write the reason for each step.

Statements

$$4x - 2(4 - 6x) + 6 = 22 + 8x$$

Reasons

Given

19. $4x - 8 + 12x + 6 = 22 + 8x$

20. $4x + 12x - 8 + 6 = 22 + 8x$

21. $(4 + 12)x - 8 + 6 = 22 + 8x$

22. $16x - 2 = 22 + 8x$

23. $8x - 2 = 22$

24. $8x = 24$

25. $x = 3$

Part B

Properties of Algebra

Directions: Use A–K to name the property demonstrated by the exercises.

- A. Associative Property
- B. Commutative Property
- C. Distributive Property
- D. Reflexive Property
- E. Symmetric Property
- F. Transitive Property
- G. Substitution Property
- H. Addition Property of Equality
- I. Subtraction Property of Equality
- J. Multiplication Property of Equality
- K. Division Property of Equality

1. $6x^2 + x = x(6x + 1)$

2. $(m\angle 1 + m\angle 2) + m\angle 3 =$
 $m\angle 1 + (m\angle 2 + m\angle 3)$

3. $(m\angle 1 + m\angle 2) + m\angle 3 =$
 $(m\angle 2 + m\angle 1) + m\angle 3$

4. If $AB + BC = AC$, then $BC + AB = AC$

5. $2(AB)(MN) = (AB)(2)(MN)$

6. If $m\angle A = m\angle B$ and $m\angle B = 35^\circ$,
then $m\angle A = 35^\circ$

7. If $AB + BC = AC$, then $AC = AB + BC$

8. If $m\angle P - m\angle T = 75^\circ$ and $m\angle P = 115^\circ$,
then $115^\circ - m\angle T = 75^\circ$

9. $BD = BD$

10. If $PQ + QR = MN$ and $MN = ST + UV$,
then $PQ + QR = ST + UV$

11. If $AB + BC = AC$ and $BC = 15$ cm, then
 $AB + 15 = AC$

12. $m\angle ABC = m\angle ABC$

13. $AB + BC = PQ$, therefore
 $AB = PQ - BC$

14. $m\angle A = m\angle B$, therefore
 $m\angle A + 90^\circ = m\angle B + 90^\circ$

15. $2(PQ) = 16$ m, therefore $PQ = 8$ m

16. $m\angle P = \frac{1}{2}m\angle Q$, therefore
 $2m\angle P = m\angle Q$

17. If $m\angle 1 + m\angle 2 + m\angle 3 + m\angle 4 = 360^\circ$,
and $m\angle 2 + m\angle 3 = 180^\circ$, then
 $m\angle 1 + m\angle 4 = 180^\circ$

18. If $m\angle P - 86^\circ = 150^\circ$, then $m\angle P = 236^\circ$.

Final Review – Chapter 2 - Homework

Part A

Match each statement from 1 to 8 with a letter from the box.

a. Rhombus	d. Parallelogram	g. Altitude	j. Supplementary
b. Rectangle	e. Angle bisector	h. Perpendicular bisector	k. Complementary
c. Trapezoid	f. Median	i. Parallel	

- | | |
|--|---|
| <p>1. _____ Two angles whose measures add up to 180°</p> <p>2. _____ Two lines in the same plane that do not intersect</p> <p>3. _____ An equiangular parallelogram</p> <p>4. _____ A quadrilateral with exactly one pair of parallel sides</p> <p>5. _____ An equilateral quadrilateral</p> | <p>6. _____ A segment in a triangle connecting a vertex with the midpoint of the opposite side</p> <p>7. _____ A segment in a triangle from a vertex perpendicular to the line containing the opposite side</p> <p>8. _____ A segment in a triangle from a vertex to the opposite side dividing the angle into two parts of equal measure</p> |
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Part B

Identify each statement as true or false.

1. The three basic building blocks (undefined terms) of geometry are lines, rays, and segments.	
2. “The ray from R through points P or Q ” is written in symbolic form as RQ or RP .	
3. “The line segment from P to Q ” is written in symbolic form as PQ .	
4. The length of line segment PQ is written in symbolic form as PQ .	
5. The vertex of angle ABC is point A .	
6. An obtuse angle is an angle whose measure is more than 180° .	
7. An isosceles triangle is a triangle with no two sides the same length.	
8. A diagonal is a line segment in a polygon connecting any two vertices.	
9. If AB intersects CD at point P , then $\angle APC$ and $\angle APD$ are a pair of vertical angles.	
10. If the sum of the measures of two angles is 90° , then the two angles are supplementary.	
11. If two lines do not intersect, then they are parallel.	
12. An angle bisector in an acute triangle is a line segment connecting a vertex with the midpoint of the opposite side.	
13. A trapezoid is a quadrilateral having exactly one pair of equal length sides.	
14. A parallelogram is a quadrilateral with all the angles equal in measure.	
15. A polygon with eight sides is called a hexagon.	

Part C

Match each term with its lettered figure below.

	<p>obtuse scalene triangle _____</p> <p>isosceles right triangle _____</p> <p>hexagon _____</p> <p>prism _____</p> <p>pyramid _____</p>
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Part D

Sketch, mark, and label each figure.

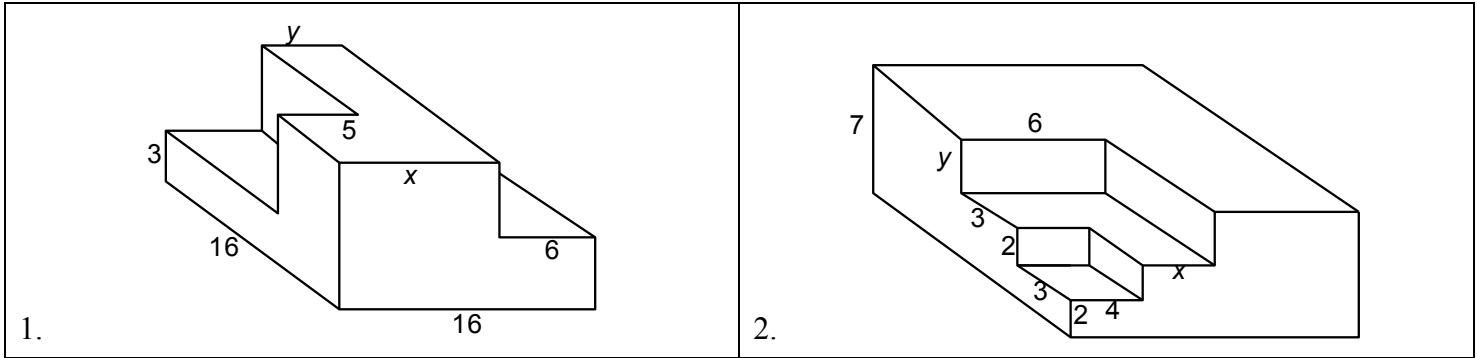
<p>1. Trapezoid $ZOID$ with $ZO \parallel ID$ and $IO = ZD$</p>	<p>2. Isosceles obtuse $\triangle ABC$ with $AB = BC$ and median AM</p>
<p>3. A hexagon $HEXAGN$ with vertices $N, E,$ and A joined to form isosceles $\triangle NEA$ such that $NE \cong NA$</p>	<p>4. A pyramid with a pentagon base</p>

Part E

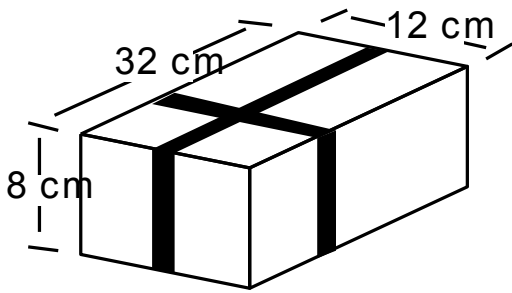
1. a. Write the converse of the statement: "If the quadrilateral is a square, then it is equiangular."

- b. Determine if the converse is true or false. If it is false, give a counterexample.

In Problems 2 and 3, each angle on each polygonal side of the block is a right angle. Find the length's x and y in each figure.



3. The box on the right is wrapped with two strips of ribbon as shown. What length of ribbon was needed to decorate the box?



4. At one point in a race, Sleepy was 25 feet behind Sneezy and 28 feet ahead of Doc. Doc was trailing Bashful by 40 feet. Sneezy was ahead of Bashful by how many feet?

Part F

1. In a plane, the locus of points b units from a fixed point A is a:
 - a) circle
 - b) line
 - c) point
 - d) ray

2. The locus of points equidistant from two parallel planes is:
 - a) a point
 - b) a line
 - c) one plane
 - d) two planes

3. In a plane, the locus of points equidistant from the sides of an angle is a:
- a) a point b) ray c) plane d) segment
4. The locus of points equidistant from two fixed points is:
- a) a plane b) two points c) one point d) a circle
5. In a plane, the locus of points t units from a fixed line l is:
- a) a circle b) a plane c) one line d) two lines
6. In a circle, the locus of the midpoints of all chords that are parallel to a fixed diameter is a:
- a) circle b) line c) ray d) segment
7. The locus of points equidistant from the vertices of a triangle is:
- a) another triangle b) a line c) a circle d) a ray