

Midyear Final Review

– Chapters 6

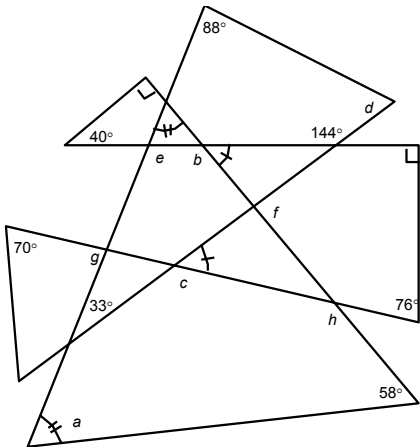
Part A

Complete each statement. *Give an answer besides *square*.

1. In an isosceles triangle, the base angles are —?—.	
2. The diagonals of a parallelogram —?— each other.	
3. Each angle of a regular decagon measures —?—.	
4. The length of a midsegment of a trapezoid is the —?—of the lengths of the bases.	
5. The vertex angles of a kite are —?— by the diagonal.	
6. The consecutive angles of a parallelogram are —?—.	
7. The length of a midsegment between two sides of a triangle is —?— the length of the third side.	
8. *The diagonals of a —?— are perpendicular bisectors of each other.	
9. The opposite angles of a parallelogram are —?—.	
10. The sum of the measures of the angles of a hexagon is —?—.	
11. The midsegment of a trapezoid is —?— to the two bases.	
12. The nonvertex angles of a kite are —?—.	
13. *The diagonals of a —?— are equal in length.	
14. The three midsegments of a triangle divide the triangle into —?—.	
15. An equiangular quadrilateral is usually called a —?—.	

Part B

Determine the measure of each lettered angle in the figure below.



a.	e.
b.	f.
c.	g.
d.	h.

Part C

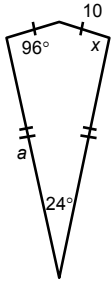
1–3. Give the value for each variable indicated.

1. Perimeter = 64

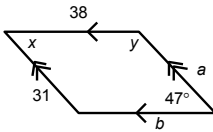
$$a = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

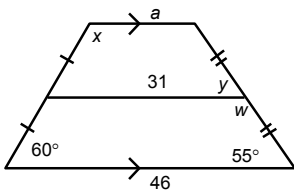
$$y = \underline{\hspace{2cm}}$$



2. $a =$ _____
 $b =$ _____
 $x =$ _____
 $y =$ _____

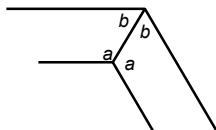
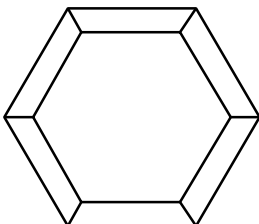


3. $a =$ _____
 $w =$ _____
 $x =$ _____
 $y =$ _____



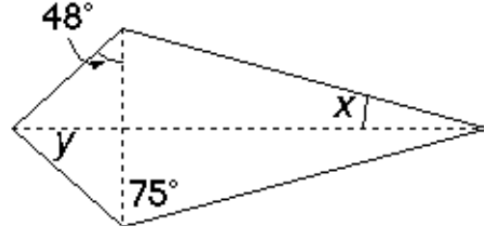
4. A regular hexagonal mirror frame is to be built from strips of 2-inch-wide pine lattice. At what angles a and b should the lattice be cut?

$$m\angle a = \text{---}^\circ \quad m\angle b = \text{---}^\circ$$

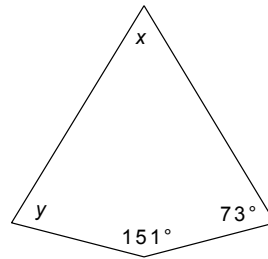


The figures in Problems 5 and 6 are kites. Find x and y for each.

5. $x =$ _____ $y =$ _____



6. $x =$ _____ $y =$ _____



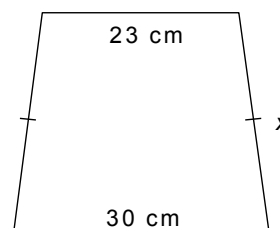
The figures in Problems 7 and 8 are isosceles trapezoids.

Find the missing values

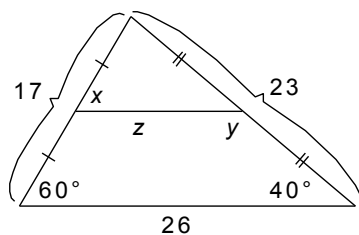
7. $x =$ _____ $y =$ _____



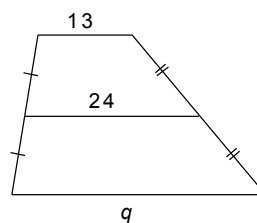
8. Perimeter = 105 cm $x =$ _____



9. $x = \underline{\hspace{1cm}}$ $y = \underline{\hspace{1cm}}$ $z = \underline{\hspace{1cm}}$



10. The figure is a trapezoid. $q = \underline{\hspace{1cm}}$



Part D

Identify each statement as true or false

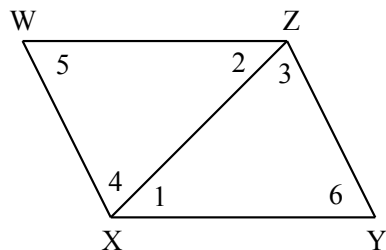
1. A geometric construction uses a protractor and ruler.	
2. The shortest distance from a point to a line is the distance measured along the perpendicular from the point to the line.	
3. Every point on a median in a triangle is equally distant from the sides of an angle.	
4. The circumcenter is equally distant from all three sides of a triangle.	
5. The centroid of a triangle divides each median into two parts, so that the shortest part is half the largest part.	
6. It is not possible to construct an angle of 7.5° using a compass and a straight edge.	
7. A trapezoid is a quadrilateral having exactly one pair of parallel sides.	
8. In a right triangle the circumcenter is located at the midpoint of the side opposite the right angle.	
9. If a point is equally distant from the endpoints of a segment, then it must be the midpoint of the segment.	
10. The incenter of a triangle is also the “center of mass” of the triangle.	

Part E

I. Complete the following proof

Given Quad XYZW is a parallelogram

Prove: Opposite angles are congruent

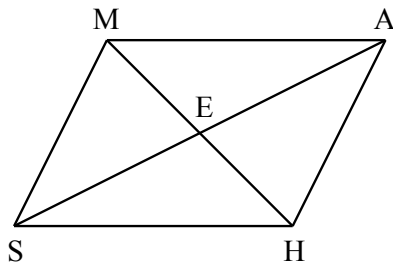


Statements	Reasons
1. Quad XYZW is a parallelogram	1. Given
2. $\overline{WX} \parallel \overline{ZY}$	2. _____
3. $\angle 3 \cong \angle 4$	3. _____
4. $\overline{WZ} \parallel \overline{XY}$	4. _____
5. $\angle 1 \cong \angle 2$	5. _____
6. $\overline{ZX} \cong \overline{ZX}$	6. _____
7. _____	7. _____
8. _____	8. _____

II. Complete the following proof

Given: $\overline{SA}$ and $\overline{MH}$ bisect each other

Prove: Quad MAHS is a Parallelogram

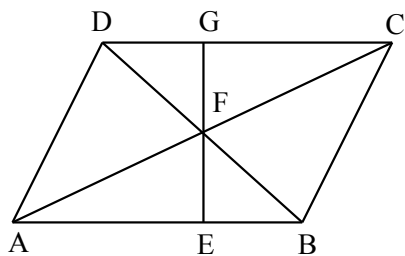


Statements	Reasons
1. $\overline{SA}$ and $\overline{MH}$ bisect each other	1. Given
2. E is the midpoint of both $\overline{SA}$ and $\overline{MH}$	2. _____
3. $SE = EA$ $ME = EH$	3. _____
4. $\angle MEA \cong \angle SEH$	4. _____
5. $\triangle AME \cong \triangle SHE$	5. _____
6. _____	6. _____
7. _____	7. _____
8. _____	8. _____
9. _____	9. _____
10. _____	10. _____
11. _____	11. _____
12. _____	12. _____

III. Complete the following proof

Given: Parallelogram ABCD

Prove:
 $\overline{EF} \cong \overline{FG}$



Statements	Reasons
1. Parallelogram ABCD	1. Given
2. $\overline{AB} \cong \overline{CD}$	2. _____
3. $\angle DFC \cong \angle BFA$	3. _____
4. $\overline{CD} \parallel \overline{AB}$	4. _____
5. $\angle CAB \cong \angle DCA$	5. _____
6. $\triangle CDF \cong \triangle ABF$	6. _____
7. $\overline{CF} \cong \overline{AF}$	8. _____
8. $\angle GFC \cong \angle AFE$	9. _____
9. $\triangle GFC \cong \triangle EFA$	10. _____
10. $\overline{EF} \cong \overline{FG}$	11. _____

