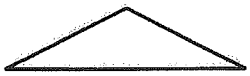
Identifying Polygons

All **polygons** have 3 or more straight sides. When 2 sides of a **polygon** meet, they form a **vertex**.

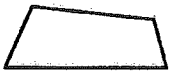
These are **polygons**.

triangle



3 sides
3 vertices

quadrilateral



4 sides
4 vertices

pentagon

5 sides
5 vertices

hexagon

6 sides
6 vertices

heptagon

7 sides
7 vertices

octagon

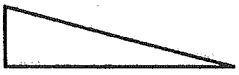
8 sides
8 vertices

Write the name of each polygon next to its picture. Use the words in the box.

quadrilateral	pentagon	triangle	octagon

1.  _____

2.  _____

3.  _____

4.  _____

Draw the polygon. Write the name beneath your drawing.

5. It has 3 sides.
   It has 3 vertices.

6. It has 4 sides.
   It has 4 vertices.

Polygons – Day _____

Name: _____ Hour: _____

Polygon Notes

A **polygon** is:

-Each line segment is called a **side** of the polygon. Each endpoint where the sides meet is called a **vertex** of the polygon.

A **convex** polygon is:

A **concave** polygon is:

You classify a polygon by the number of sides it has. Familiar polygons have specific names. The ones without specific names are called n-sided polygons, or n-gons. For instance, you call a 25-sided polygon a 25-gon.

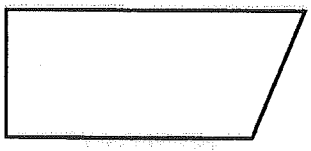
Number of Sides	Name of Polygon
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
n	

Name _____ **P 95**

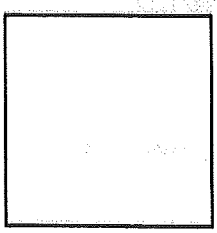
Use with text pages 256–257.

Identifying Polygons

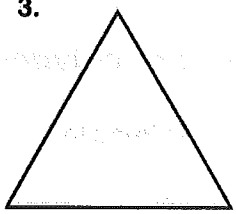
Name each polygon. Write the number of sides and vertices.

1. 

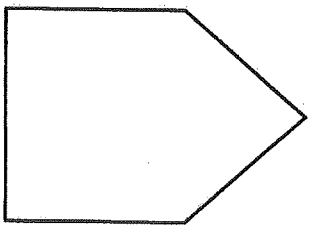
_____

2. 

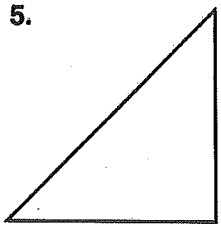
_____

3. 

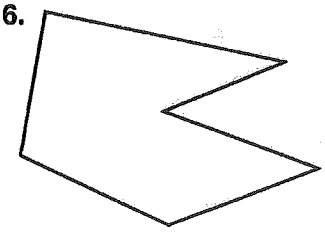
_____

4. 

_____

5. 

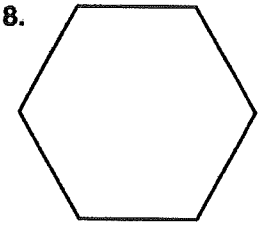
_____

6. 

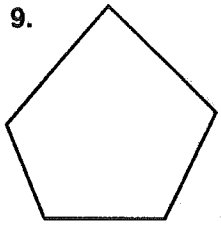
_____

7. 

_____

8. 

_____

9. 

_____

10. Look back at exercise 7. What is another name for that kind of polygon?

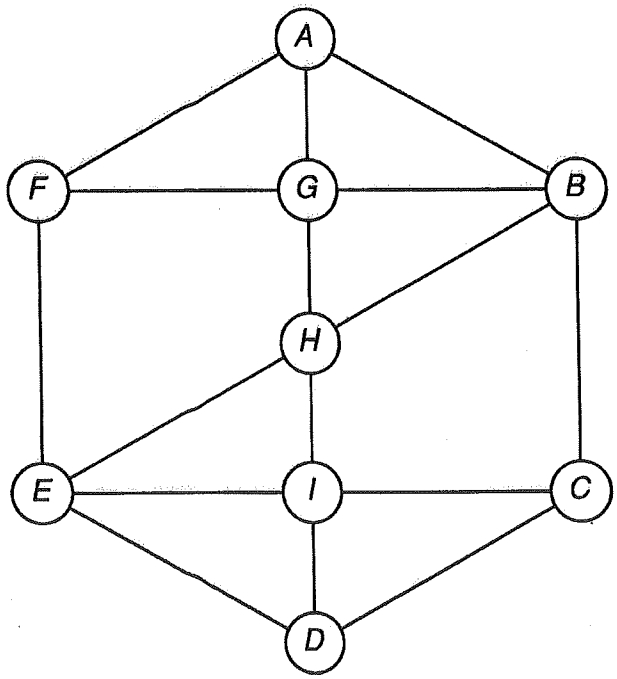
_____

11. The Ancient Greek word for 8 was *octa*.

    Draw an octagon.

Identifying Polygons

Study the figure. Then answer each question.



1. How many triangles do you see in the figure? _____
   Use the capital letters at the vertices to name them.

   _____

2. How many quadrilaterals do you see in the figure? _____

   Name them. _____

   _____

3. How many pentagons do you see in the figure? _____

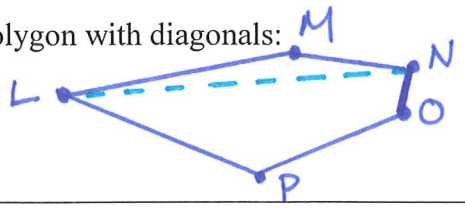
   Name them. _____

4. How many hexagons do you see in the figure? _____

   Name them. _____

A **diagonal** of a polygon is a line segment that connects two nonconsecutive vertices.

Draw a polygon with diagonals:

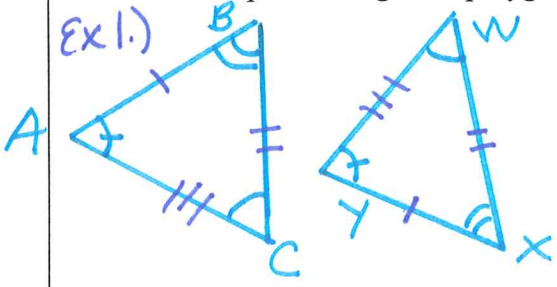


LN is a diagonal
Name the other diagonals.

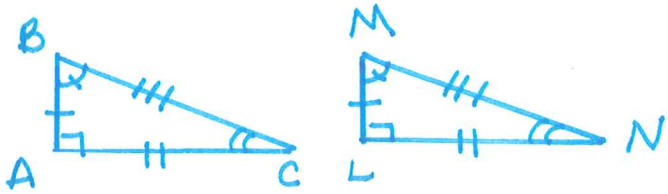
Two polygons are **congruent polygons** if and only if they are exactly the same size and shape. The order matters when naming your congruent figures.

Draw an example of congruent polygons:

Ex 1.)



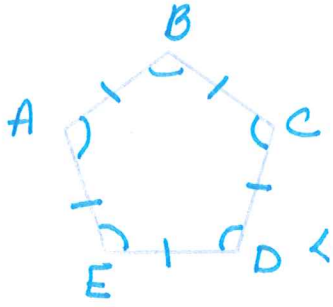
$\triangle ABC \cong \triangle YXW$



Ex 2.) $\triangle ABC \cong \triangle$ _____

A **regular polygon** has ALL congruent sides and ALL congruent angles.

Draw examples:



Notice
$AB \cong BC \cong CD \cong DE \cong EA$
AND
$\angle A \cong \angle B \cong \angle$ ___ $\cong \angle$ ___ $\cong \angle$ ___

Polygons

Quadrilaterals

Trapezoids

General trapezoid

A general trapezoid is a quadrilateral with one pair of opposite sides _____

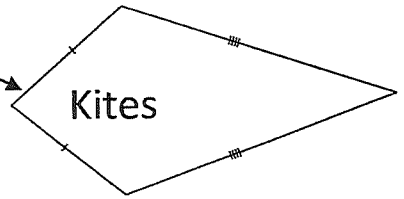
Right trapezoid

A right trapezoid is a trapezoid with one leg _____ to the parallel sides.

Isosceles trapezoid

An isosceles trapezoid is a trapezoid with one pair of congruent _____

Kites



A kite is a quadrilateral with _____ pairs of consecutive congruent sides.

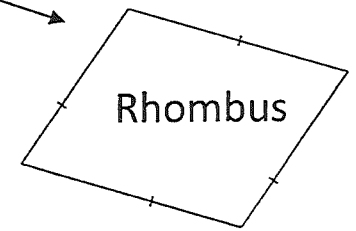
Parallelograms

A parallelogram is a quadrilateral with two pairs of opposite sides _____.

Rectangle

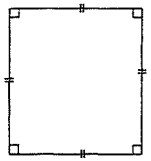
A rectangle is a parallelogram with _____ right angles.

Rhombus



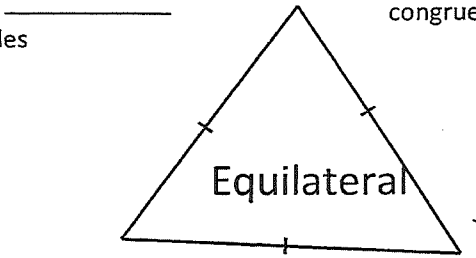
A rhombus is a parallelogram with _____ congruent sides.

Square

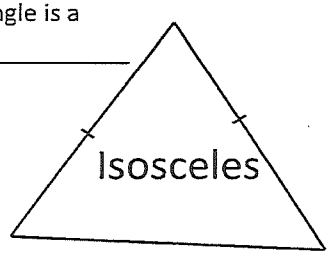


A square is a parallelogram with _____ right angles and _____ congruent sides.

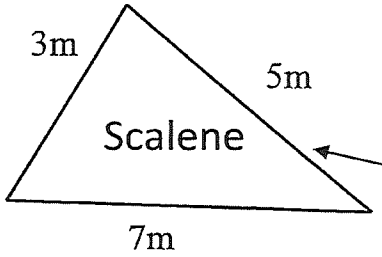
Polygons



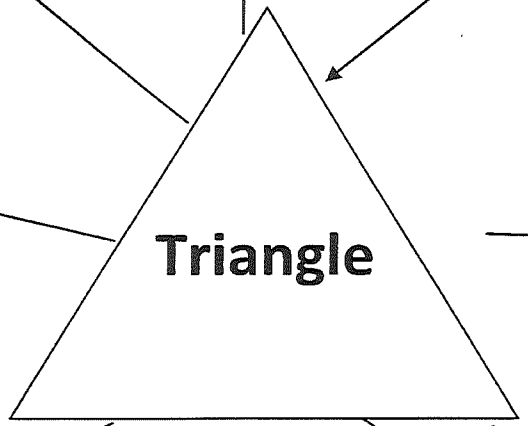
An equilateral triangle is a triangle with _____ congruent sides

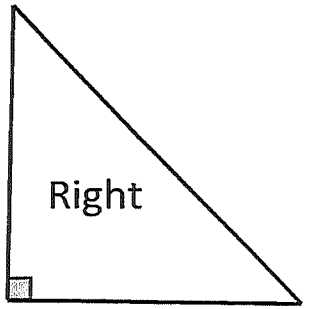


An isosceles triangle is a triangle with _____ congruent sides

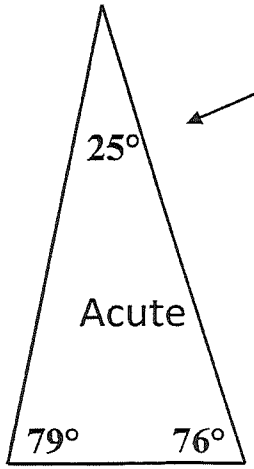


A scalene triangle is a triangle with _____ congruent sides



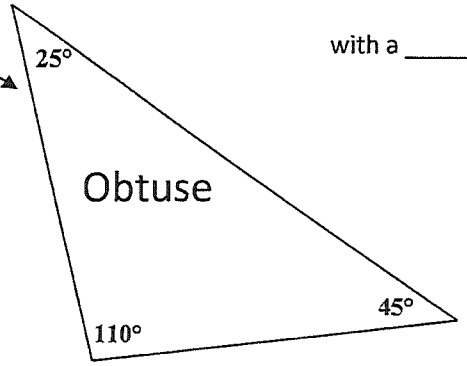


A right triangle is a triangle with a _____



An acute triangle is a triangle with _____ acute angles.

An obtuse triangle is a triangle with _____ obtuse angle (s).

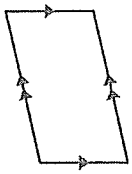


Geometry Name_____

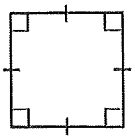
Elementary Classification

Date_____ Hour ____

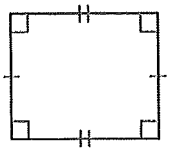
State the most specific name for each figure.

1) 

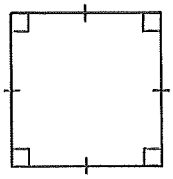
A) kite
B) quadrilateral
C) parallelogram
D) trapezoid

2) 

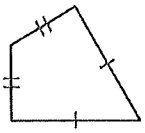
A) quadrilateral
B) trapezoid
C) square
D) kite

3) 

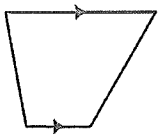
A) trapezoid
B) kite
C) quadrilateral
D) rectangle

4) 

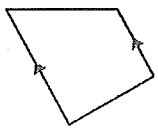
A) trapezoid
B) quadrilateral
C) kite
D) square

5) 

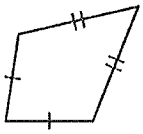
A) kite
B) isosceles trapezoid
C) quadrilateral
D) trapezoid

6) 

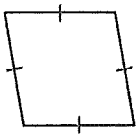
A) kite
B) quadrilateral
C) isosceles trapezoid
D) trapezoid

7) 

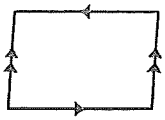
A) kite
B) quadrilateral
C) isosceles trapezoid
D) trapezoid

8) 

A) trapezoid
B) kite
C) isosceles trapezoid
D) quadrilateral

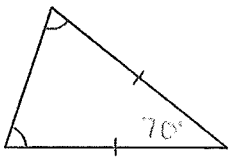
9) 

A) trapezoid
B) kite
C) quadrilateral
D) rhombus

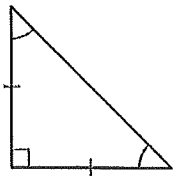
10) 

A) trapezoid
B) parallelogram
C) quadrilateral
D) kite

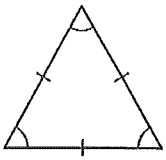
Classify each triangle by its angles and sides. Equal sides and equal angles, if any, are indicated in each diagram.

11) 

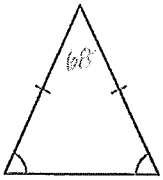
A) equilateral
B) right equilateral
C) acute isosceles
D) acute right

12) 

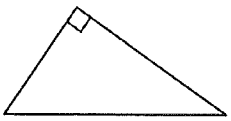
A) obtuse scalene
B) right isosceles
C) right obtuse
D) acute scalene

13) 

A) acute obtuse
B) obtuse scalene
C) equilateral
D) right scalene

14) 

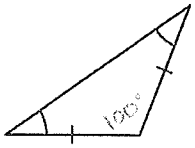
A) acute isosceles
B) acute scalene
C) obtuse scalene
D) right scalene

15) 

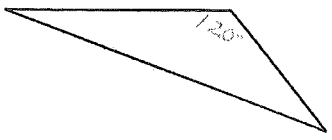
A) right scalene
B) right isosceles
C) equilateral
D) acute isosceles

16) 

A) acute scalene
B) right equilateral
C) obtuse isosceles
D) obtuse scalene

17) 

A) obtuse isosceles
B) acute scalene
C) right isosceles
D) obtuse scalene

18) 

A) equilateral
B) right equilateral
C) obtuse scalene
D) right isosceles