Sec 1.8 CC Geometry – Polygons & Quadrilaterals

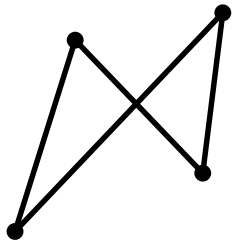
Name:

Polygon: A closed plane figure formed by three or more segments such that each segment intersects exactly two other segments only at their endpoints and no two segments with a common endpoint are collinear.

Regular Polygon: A polygon that is both equilateral and equiangular

Determine whether each figure below is a polygon or not a polygon.

1.



Circle one of the following:

It is a Polygon	Not a Polygon

Name if Polygon:

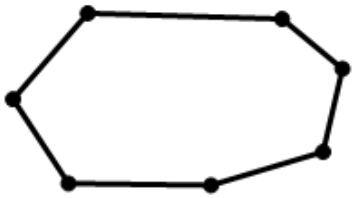
2.

Circle one of the following:

It is a Polygon	Not a Polygon

Name if Polygon:

3.

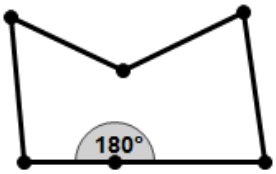


Circle one of the following:

It is a Polygon	Not a Polygon

Name if Polygon:

4.



Circle one of the following:

It is a Polygon	Not a Polygon

Name if Polygon:

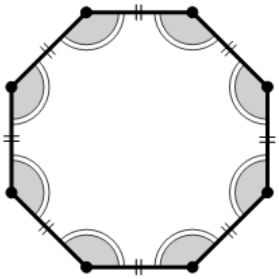
5.

Circle one of the following:

It is a Polygon	Not a Polygon

Name if Polygon:

6.



Circle one of the following:

It is a Polygon	Not a Polygon

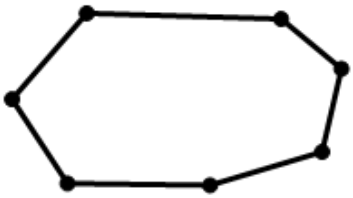
Name if Polygon:

Concave Polygon: A polygon in which a diagonal can be drawn such that part of one of the diagonals contains point in the exterior of the polygon.

Convex Polygon: A polygon in which no diagonal contains points in the exterior of the polygon.

Determine whether each figure below is a Convex or Concave.

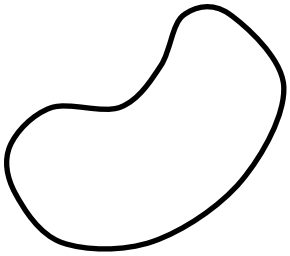
7.



Circle one of the following:

CONVEX CONCAVE

8.



Circle one of the following:

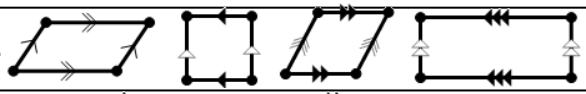
CONVEX CONCAVE

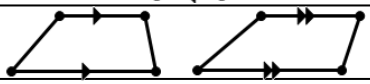
9.

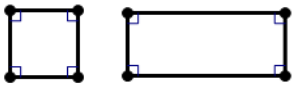
Circle one of the following:

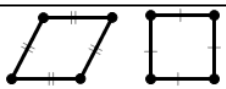
CONVEX CONCAVE

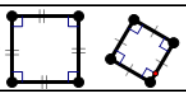
Quadrilateral: A four-sided polygon. 

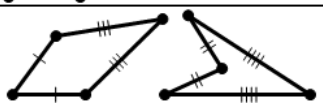
Parallelogram: A quadrilateral with two pairs of parallel sides. 

Trapezoid: A quadrilateral with exactly one pair of parallel sides. 

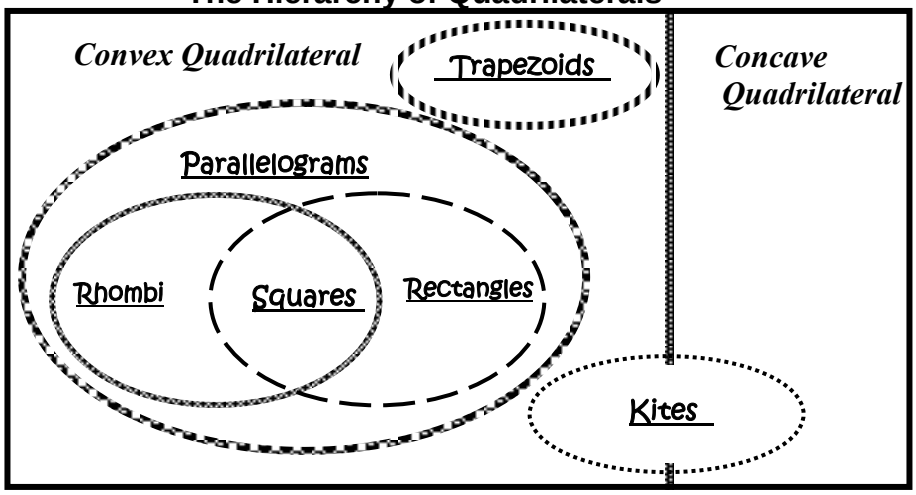
Rectangle: A quadrilateral with four right angles. 

Rhombus: A quadrilateral with four congruent sides. 

Square: A quadrilateral with four congruent sides and four right angles. 

Kite: A quadrilateral with exactly two pairs of congruent consecutive sides but opposite sides are not congruent. 

The Hierarchy of Quadrilaterals



Answer each of the following with ALWAYS, SOMETIMES, or NEVER

_____**10.** **A square is a rhombus.**

_____**11.** **A rhombus is a square.**

_____**12.** **A trapezoid is a parallelogram.**

_____**13.** **A rectangle is a rhombus.**

_____**14.** **A kite is a concave quadrilateral.**

_____**15.** **A parallelogram is a rectangle.**

_____**16.** **A rhombus is a trapezoid.**

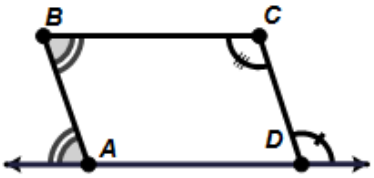
_____**17.** **A convex quadrilateral is a trapezoid.**

_____**18.** **A rectangle is a parallelogram.**

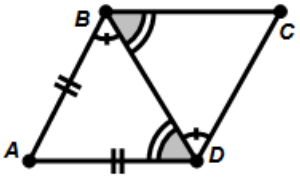
Using your knowledge of congruent triangles and parallel triangles determine the highest level and most appropriate definition of a quadrilateral for each ABCD quadrilateral below. Each definition in the word wall should be used exactly once. Briefly explain why for each quadrilateral.

Square	Convex-Quadrilateral	Kite	Concave-Quadrilateral	
Rhombus		Rectangle	Parallelogram	Trapezoid

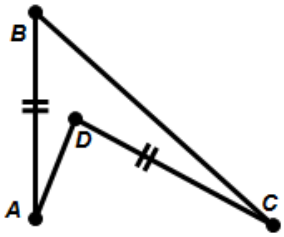
1.



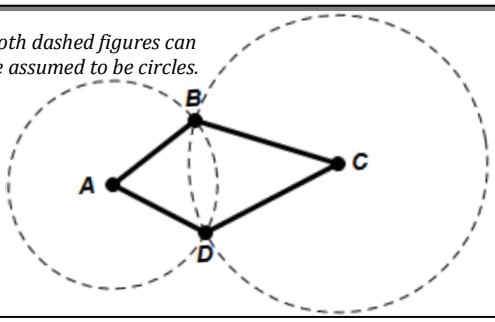
2.



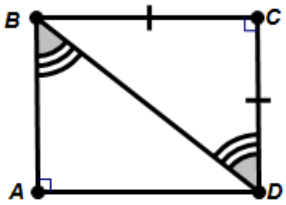
3.



4. *Both dashed figures can be assumed to be circles.*

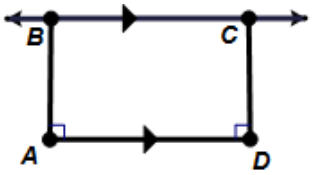


5.

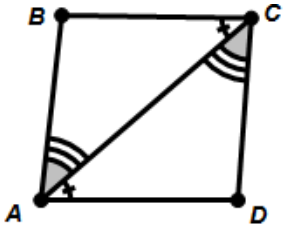


$\measuredangle ABD$ and $\measuredangle CBD$ are complimentary

6.



7.



8.