

Chapter 1

Basics of Geometry



1.1 - Points, Lines and Planes

1.2 - Measuring and Constructing Segments

1.3 - Using Midpoint and Distance Formulas

1.4 - Perimeter and Area in the Coordinate Plane

1.5 - Measuring and Constructing Angles

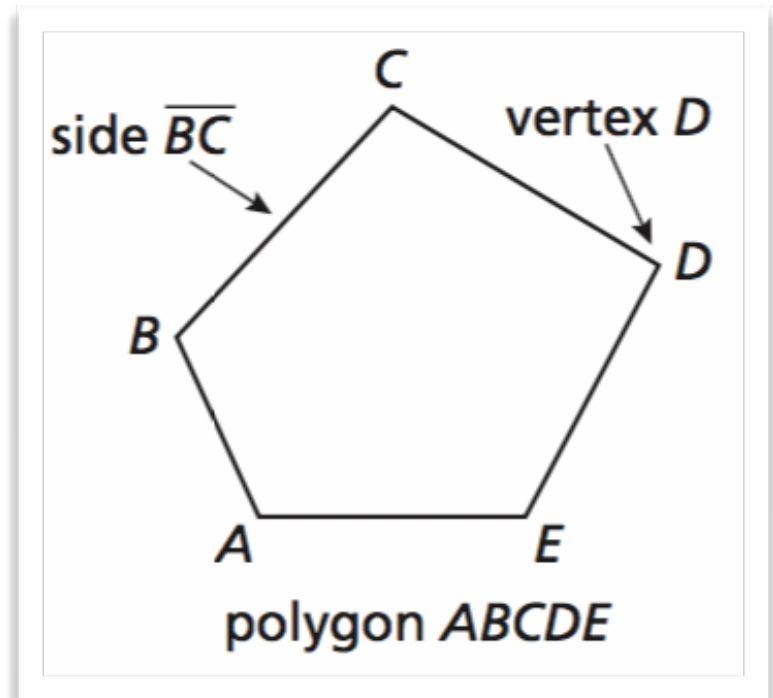
1.6 - Describing Pairs of Angles

1.4 - Perimeter and Area in the Coordinate Plane

Polygon

Properties:

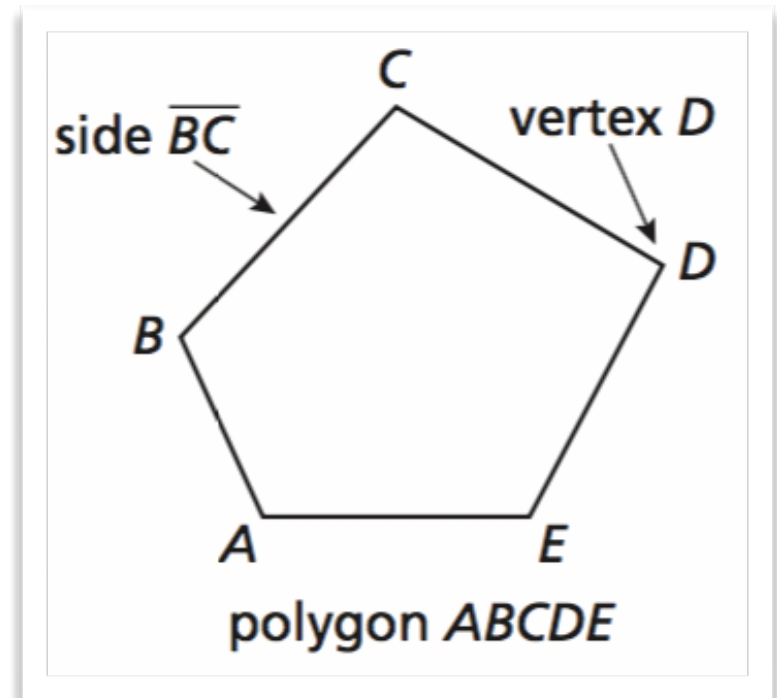
- closed figure
- planar
- 3 or more sides
- sides are segments (no curves)



1.4 - Perimeter and Area in the Coordinate Plane

Polygon

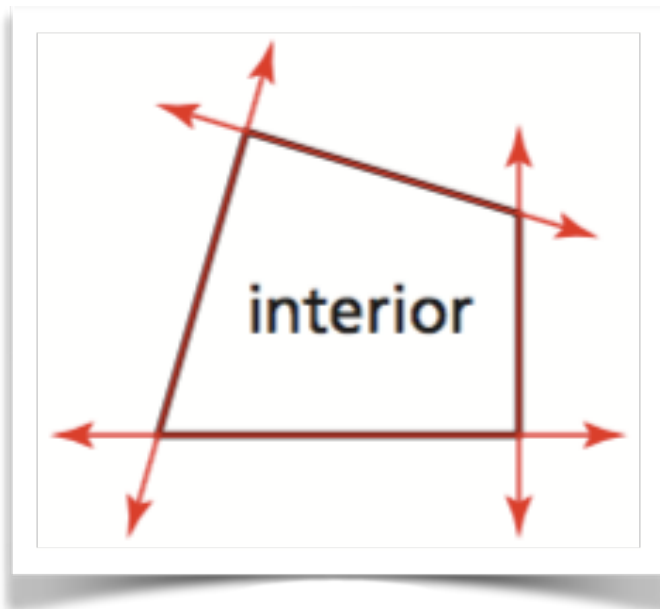
Number of sides	Type of polygon
3	Triangle
4	Quadrilateral
5	Pentagon
6	Hexagon
7	Heptagon
8	Octagon
9	Nonagon
10	Decagon
12	Dodecagon
n	n -gon



1.4 - Perimeter and Area in the Coordinate Plane

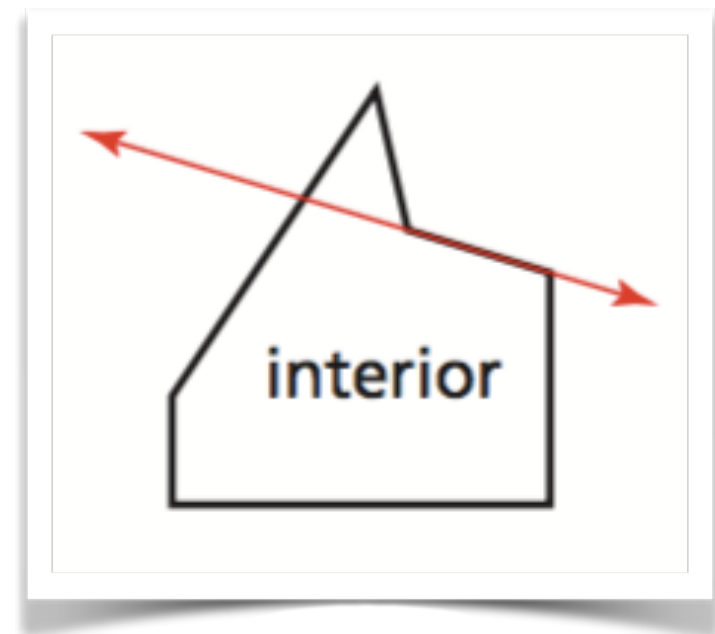
Convex Polygon

No lines containing sides go through the interior of the polygon.



Concave Polygon

At least one line containing a side goes through the interior of the polygon.



1.4 - Perimeter and Area in the Coordinate Plane

Classify these polygons

- type of polygon
- convex or concave

1)



3)



2)



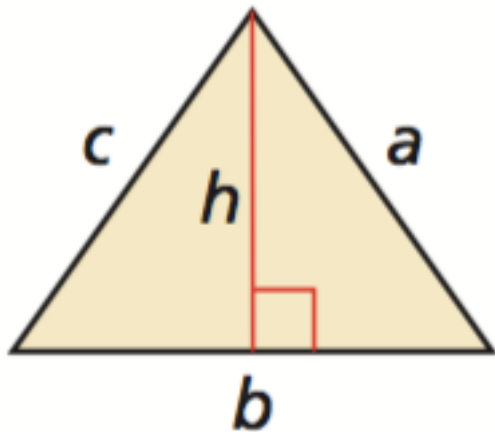
4)



1.4 - Perimeter and Area in the Coordinate Plane

Perimeter and Area

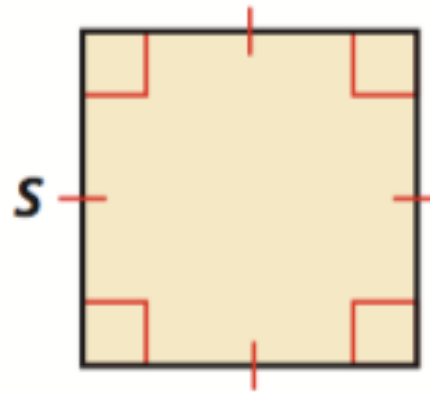
Triangle



$$P = a + b + c$$

$$A = \frac{1}{2}bh$$

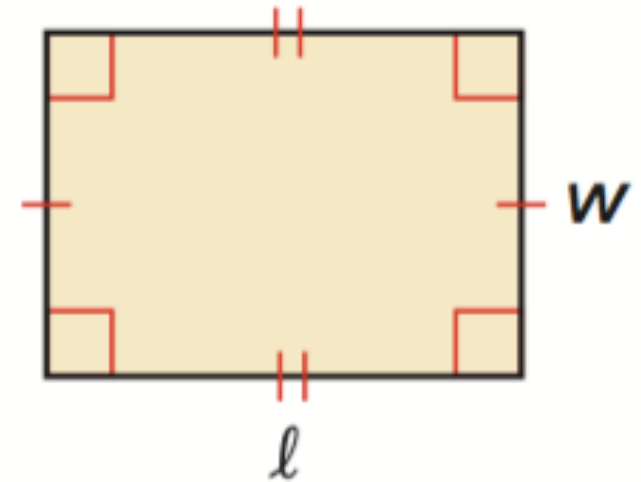
Square



$$P = 4s$$

$$A = s^2$$

Rectangle

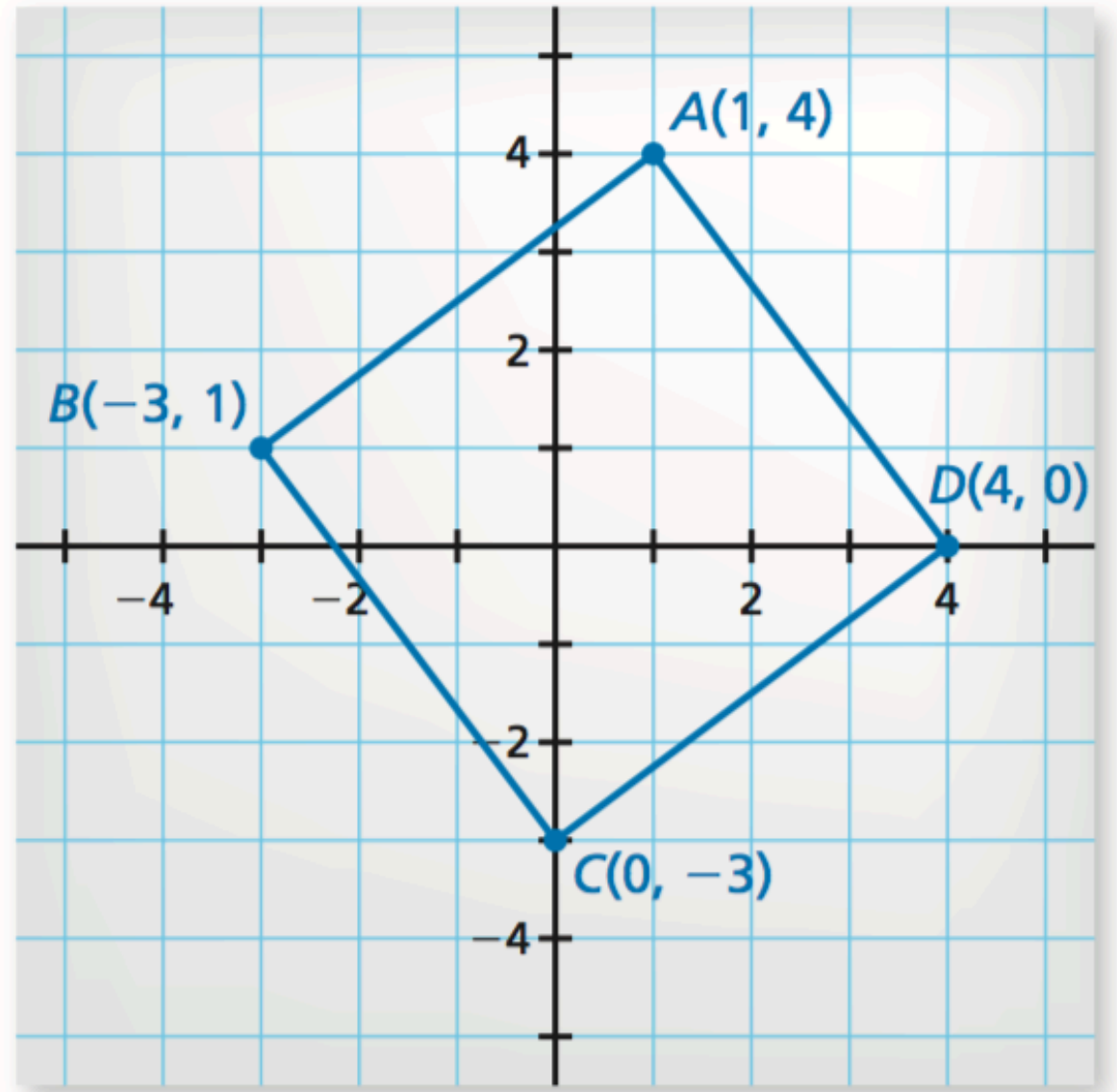


$$P = 2l + 2w$$

$$A = lw$$

1.4 - Perimeter and Area in the Coordinate Plane

Calculate the Perimeter and Area



1.4 - Perimeter and Area in the Coordinate Plane

Calculate the Perimeter and Area

Quadrilateral EFGH

$E(-3, 6)$, $F(-7, 3)$,

$G(-1, -5)$, $H(3, -2)$

