LESSON 1-6 Two-Dimensional Figures

I can correctly categorize geometric shapes.

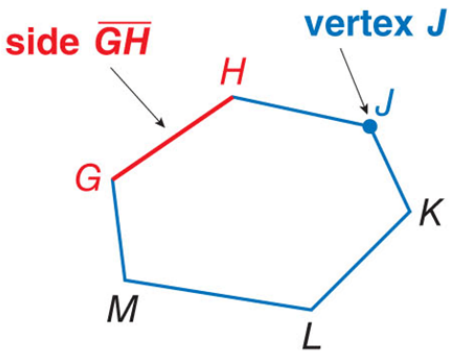
1.6 Two-Dimensional Figures

polygon: a closed figure formed by connecting line segments endpoint to endpoint

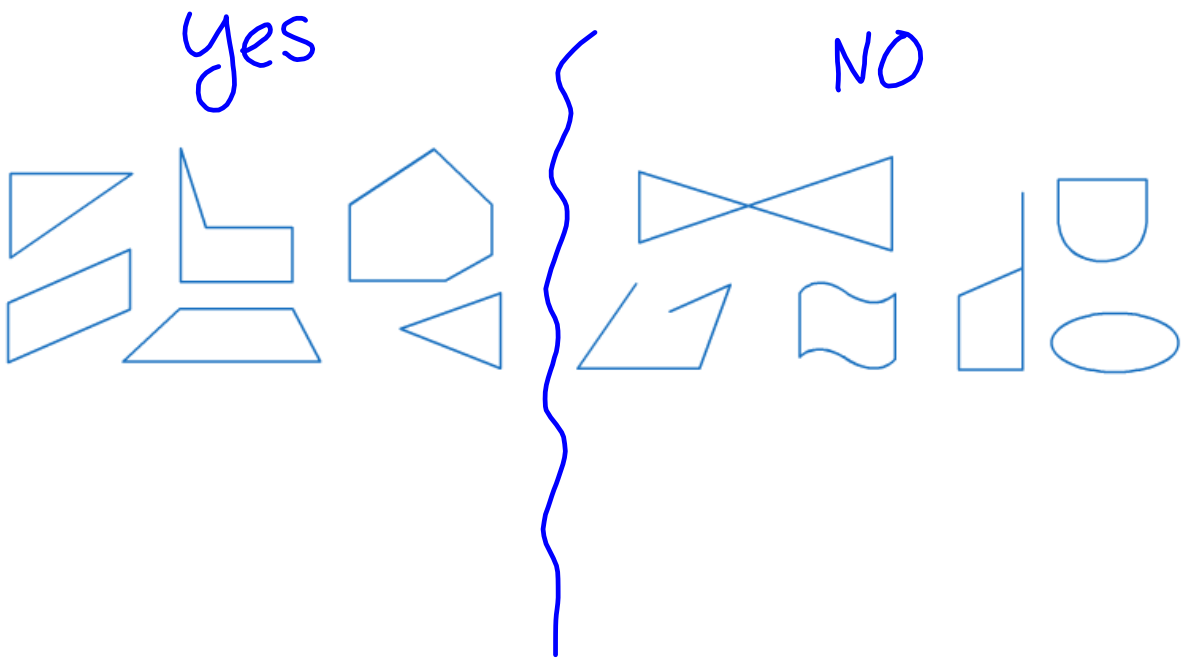
side: each line segment of the polygon

vertex: each endpoint where the sides meet in a polygon

Named by: naming vertices in order around the polygon



polygon *GHJKLM*



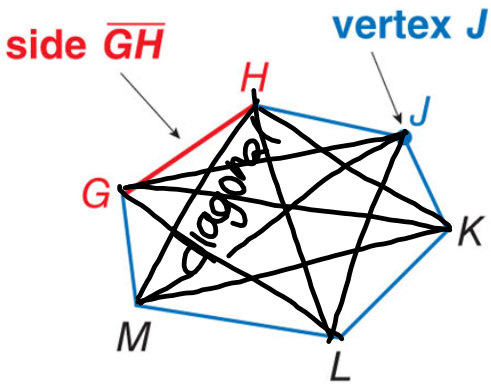
consecutive: next to each other

consecutive angles ∠G ∠H

consecutive vertices G, H

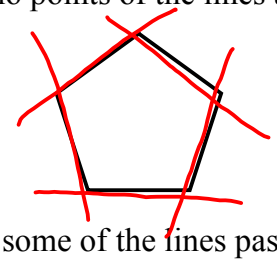
consecutive sides $\overline{GH}$ $\overline{HJ}$

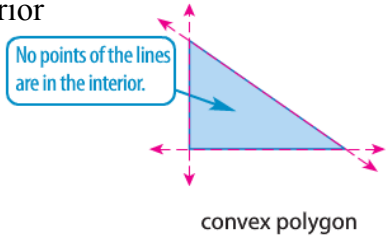
diagonal: a line segment that connec nonconsecutive vertices



polygon *GHJKLM*

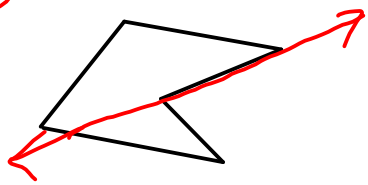
convex: no points of the lines are in the interior

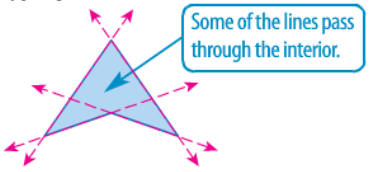




convex polygon

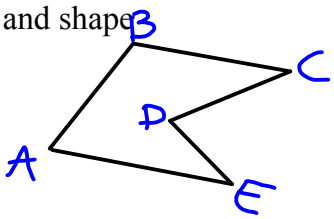
concave: some of the lines pass through the interior

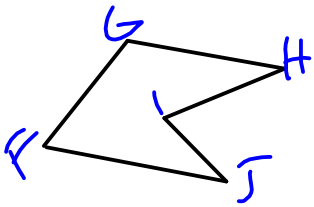




concave polygon

congruent polygons: two polygons that have exactly the same size and shape



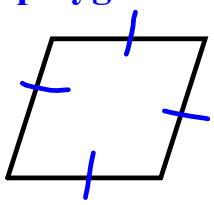


$ABCDE \cong FGHIJ$

# of sides	3	4	5	6	7
Name	Triangle	Quadrilateral	Pentagon	Hexagon	Heptagon

8	9	10	11	12	n
Octagon	Nonagon	Decagon	Undecagon	Dodecagon	n-gon

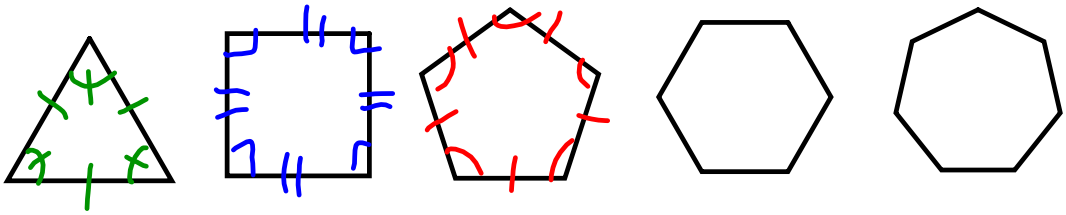
equilateral polygons: a polygon where all the sides are equal



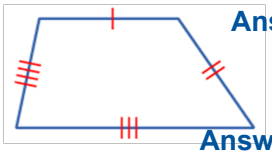
Markings!

equiangular polygons: a polygon where all the angles are equal

regular polygons: a polygon where all sides and all angles are equal

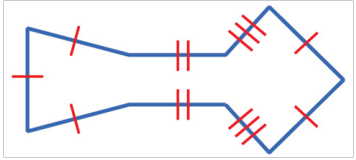


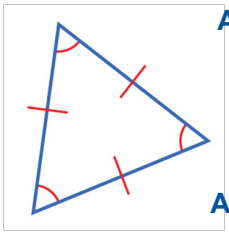
Name the polygon by its number of sides.
Then classify it as *convex* or *concave* and *regular* or *irregular*.



Answer: quadrilateral, convex, irregular

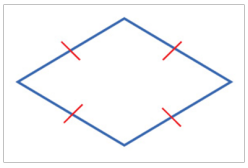
Answer: nonagon, concave, irregular





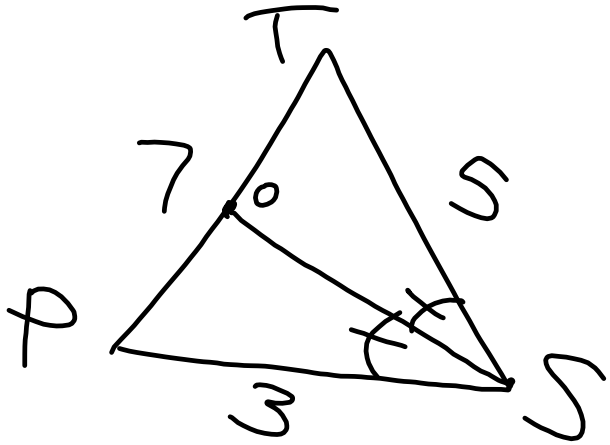
Answer: triangle, convex, regular

Answer: quadrilateral, convex, irregular



Draw & mark the following shapes.

ΔPTS with $\overline{PS} = 3$, $\overline{ST}$=5 and $\overline{PT}$=7, angle bisector $\overline{SO}$.



$\overrightarrow{SO}$

Perimeter, Circumference, and Area

These are vocabulary words you need to know!

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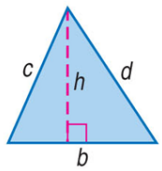
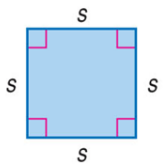
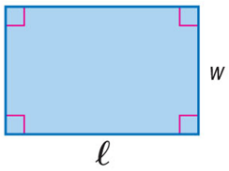
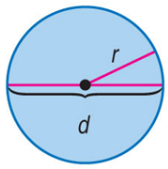
Copy the table into your notebook!

Complete Guided Practice 2A., 2B., and 2C.

$P = s+s+s+s$ square

$P = 2l+2w$ rect.

KeyConcept Perimeter, Circumference, and Area

Triangle	Square	Rectangle	Circle
			
$P = b + c + d$	$P = s + s + s + s$ $= 4s$	$P = \ell + w + \ell + w$ $= 2\ell + 2w$	$C = 2\pi r$ or $C = \pi d$
$A = \frac{1}{2}bh$	$A = s^2$	$A = \ell w$	$A = \pi r^2$

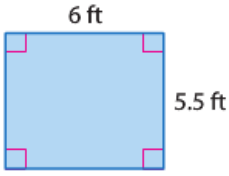
P = perimeter of polygon; A = area of figure; C = circumference

b = base, h = height; ℓ = length, w = width; r = radius, d = diameter

Erase below shape for answers.

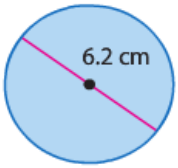
GuidedPractice

2A.



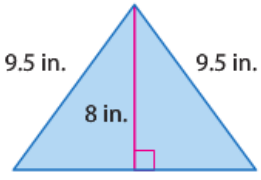
23 ft; 33 ft²

2B.



≈19.5 cm; ≈30.2 cm²

2C.



29.2 in.; 40.8 in²

Homework

Slightly Different from sheet!!!

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You may replace some area/perimeter problems for 23, 24 if you would like a challenge!

Read booklet directions! Ask questions! Rough Draft Due DATE!!