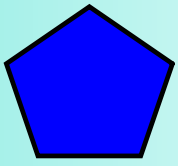
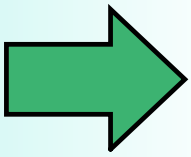
1.6 CLASSIFY POLYGONS

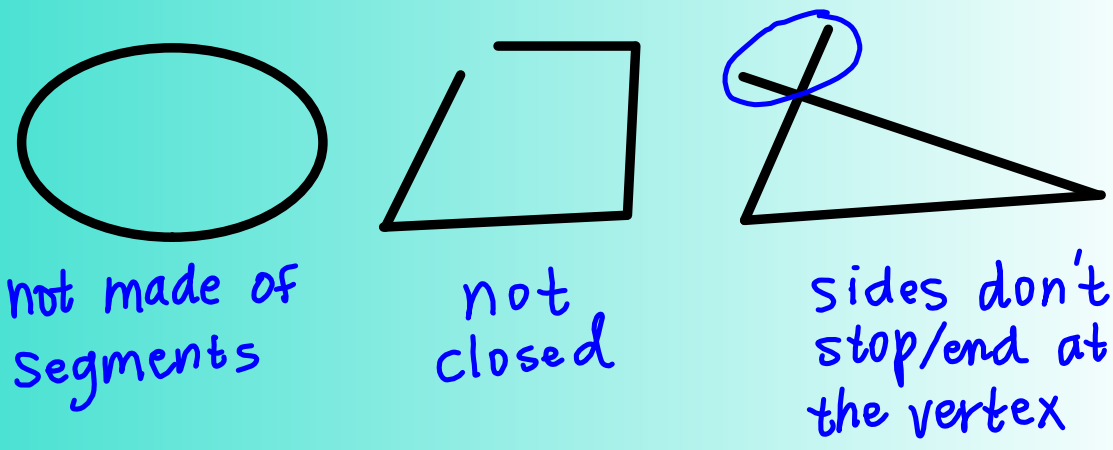
A polygon is a closed figure in a plane that is made up of segments, called sides, that intersect only at their endpoints, called vertices.





These are not polygons... why?



Some types of polygons:

3 sides
triangle

4 sides
quadrilateral

5 sides
pentagon

6 sides
hexagon

n sides
n-gon

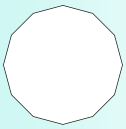
7 sides
heptagon

8 sides
octagon

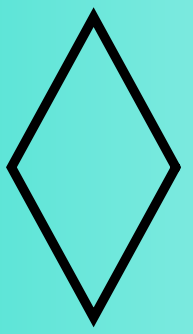
9 sides
nonagon

10 sides
decagon

12 sides
dodecagon

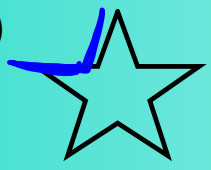


CONVEX

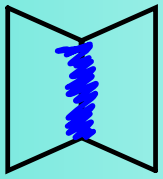


CONCAVE

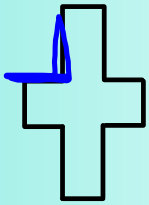
Tell whether the figure is a polygon.
If it is, tell whether is it convex or concave.

a) 

concave

b) 

concave

c) 

concave

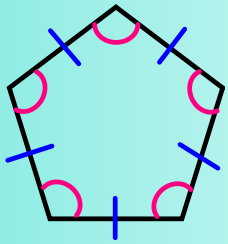
d) 

convex

equilateral - all sides congruent

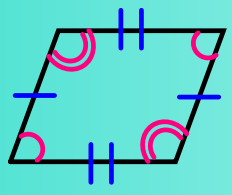
equiangular - all angles congruent

regular - equilateral & equiangular



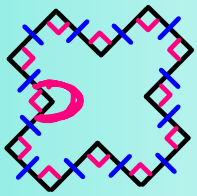
Classify each polygon by the number of sides. Tell whether it is equilateral, equiangular, regular, convex, or concave.

a)



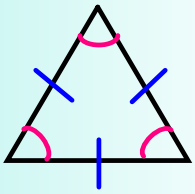
quadrilateral
convex

b)



dodecagon
equilateral
concave

c)

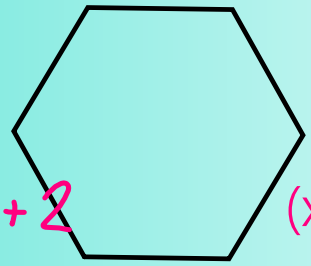


triangle
equilateral
equiangular
regular
convex

A table ~~shaped~~ is like a regular hexagon. The expressions shown represent side lengths of the hexagonal table. Find the length of a side.

$(1)^2 + 3(1)$

$(x^2 + 3x)$ in



$(x^2 + x + 2)$ in

Side = 4 in

$x^2 + 3x = x^2 + x + 2$

$-x^2 \quad -x^2$

$3x = x + 2$

$-x \quad -x$

$\frac{2x}{2} = \frac{2}{2}$

$x = 1$