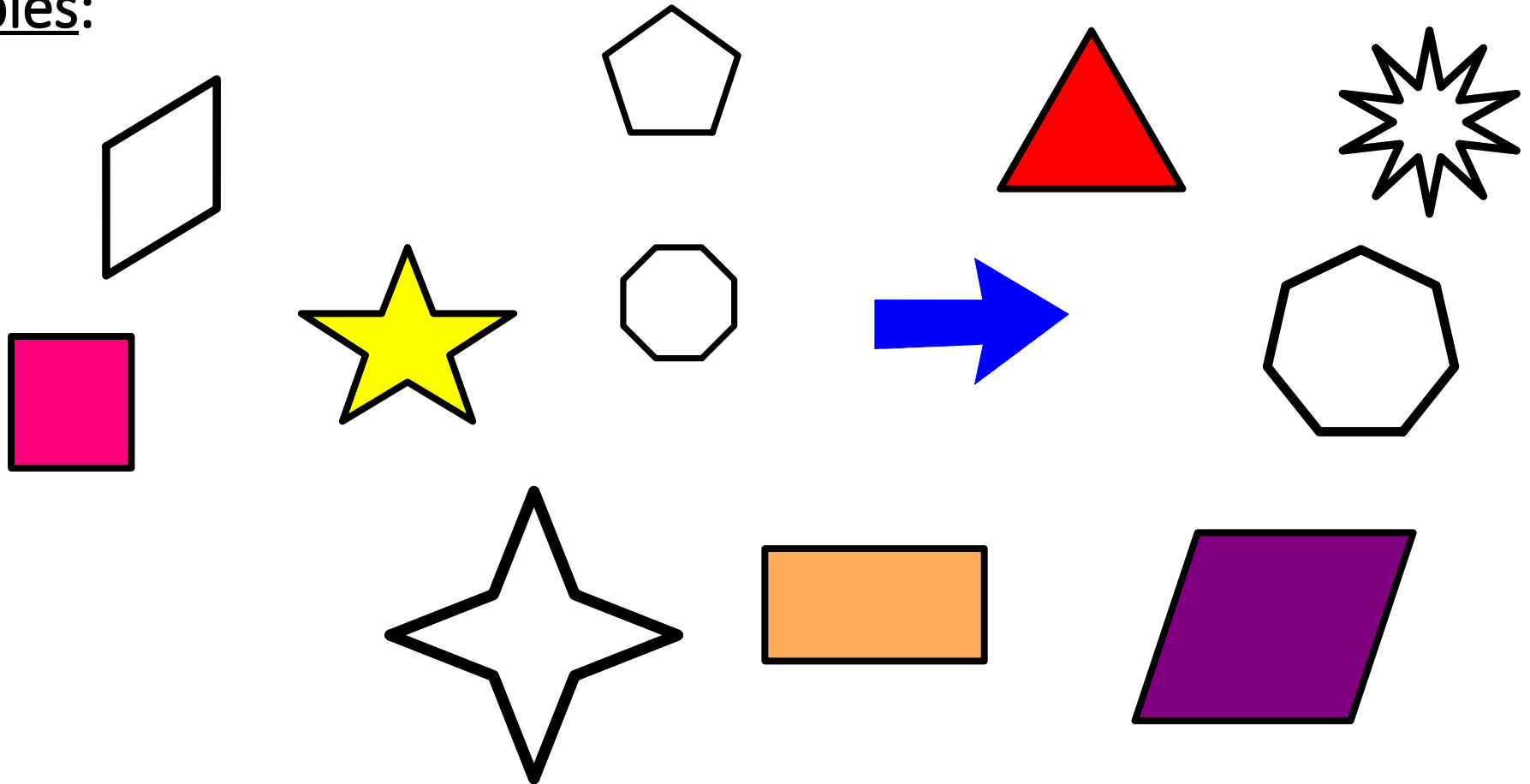


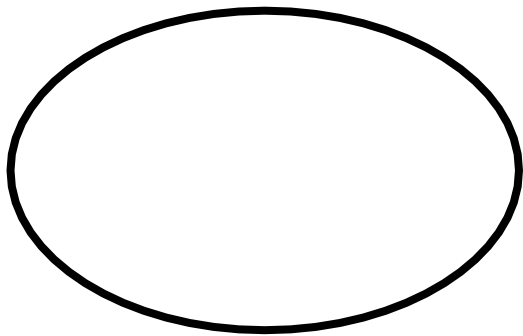
6.1 POLYGONS

Polygons are formed by three or more segments that are closed and do not overlap.

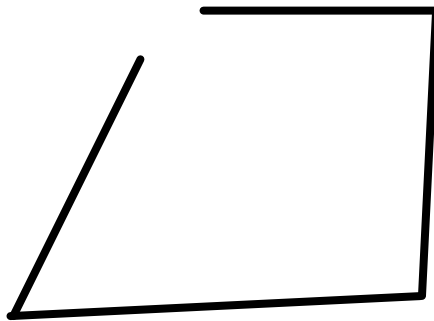
Examples:



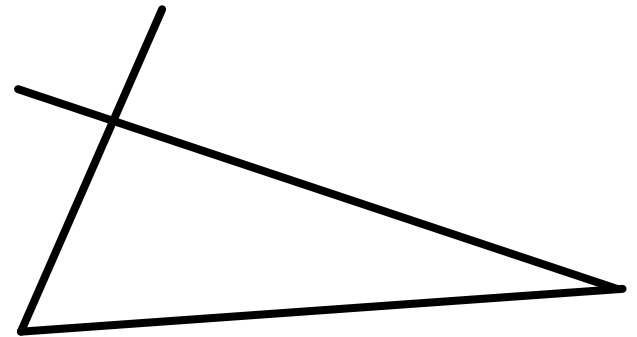
These are not polygons...why?



not made
of segments



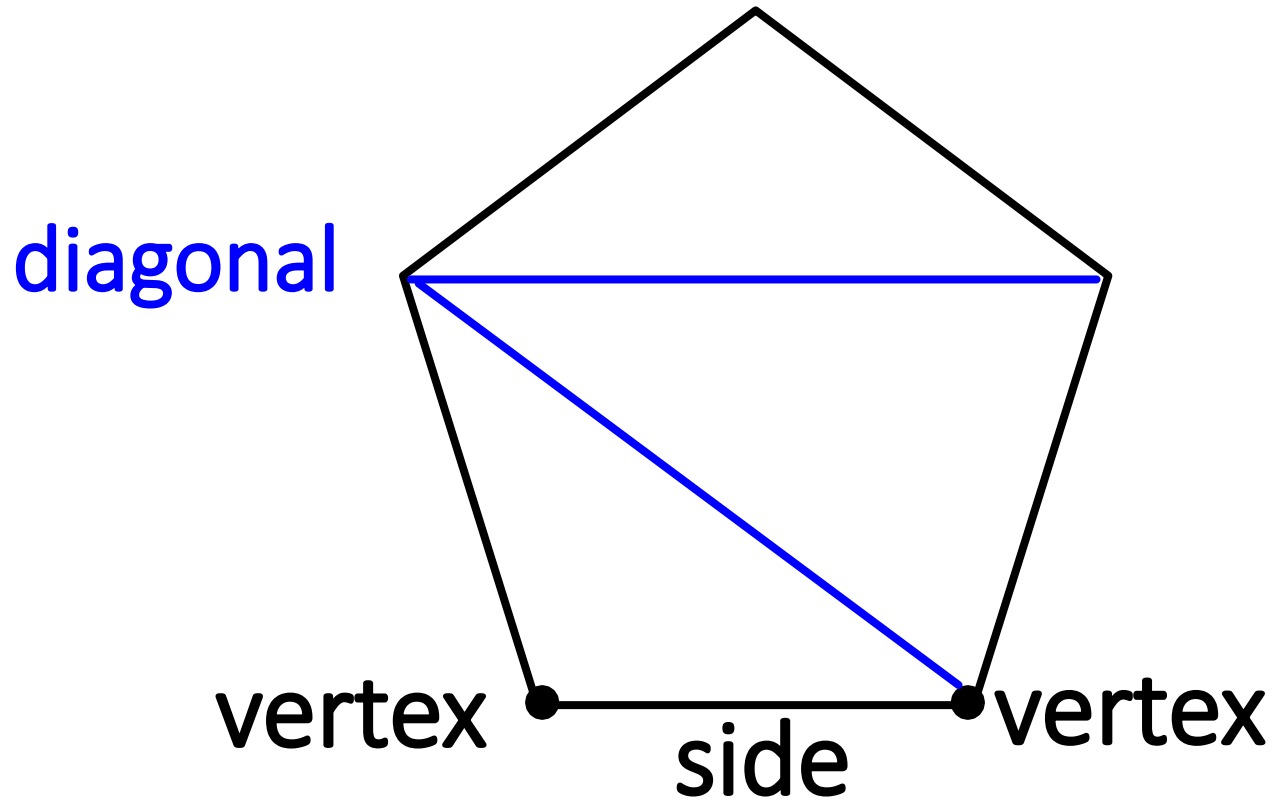
not
closed



overlapping
segments

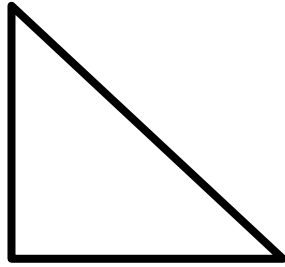
Polygons with more than 3 sides have diagonals.

diagonal - joins 2 nonadjacent vertices



Some types of polygons:

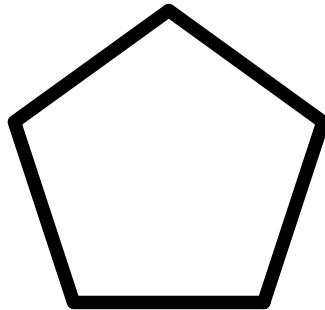
3 sides
triangle



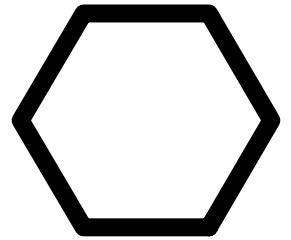
4 sides
quadrilateral



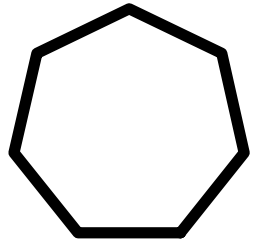
5 sides
pentagon



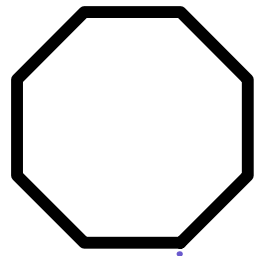
6 sides
hexagon



7 sides
heptagon

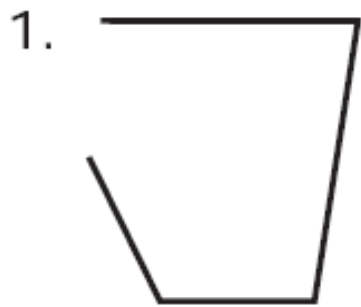


8 sides
octagon

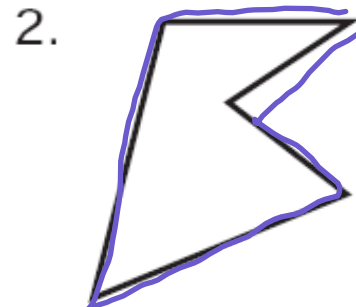


Checkpoint Identify and Classify Polygons

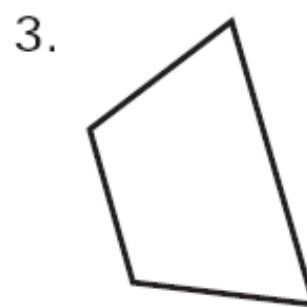
Decide whether the figure is a polygon. If so, tell what type. If not, explain why.



not a polygon
↓
not closed



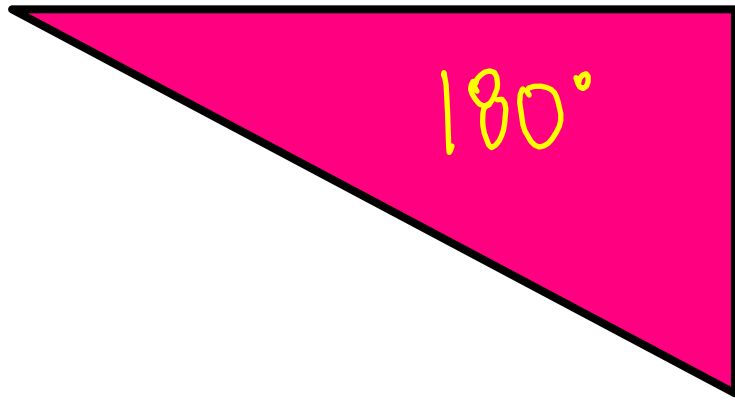
polygon
↓
pentagon



polygon
↓
quadrilateral

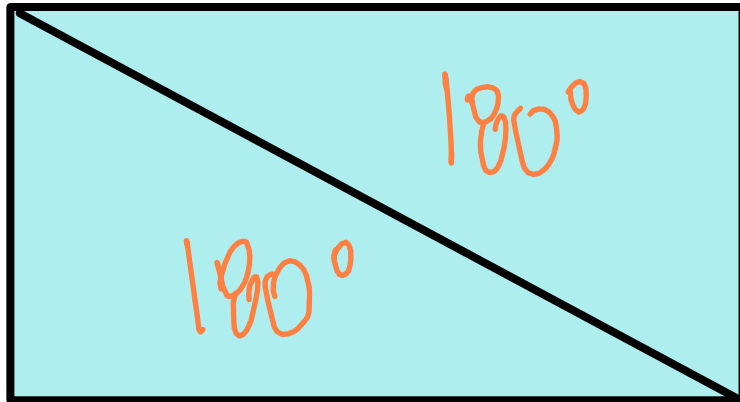


not a polygon
↓
not made of only segments



What is the sum of the angles of a triangle?

180°

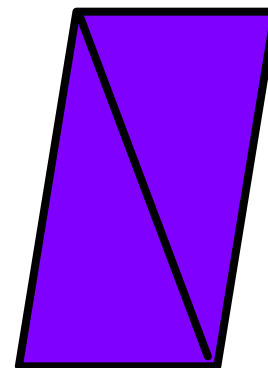
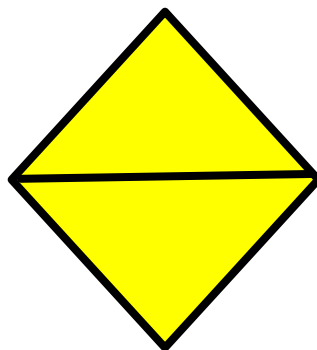
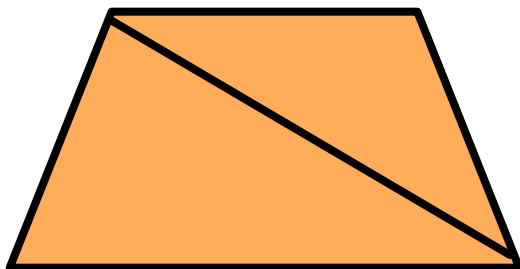
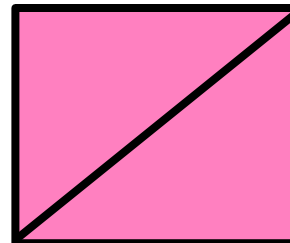
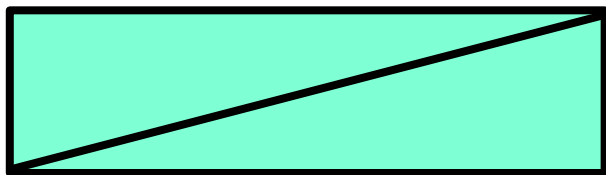


How many triangles can we fit in this quadrilateral?
TRY IT!

2

So the sum of the angles of a quadrilateral is always 360° since it can always be divided into 2 triangles.

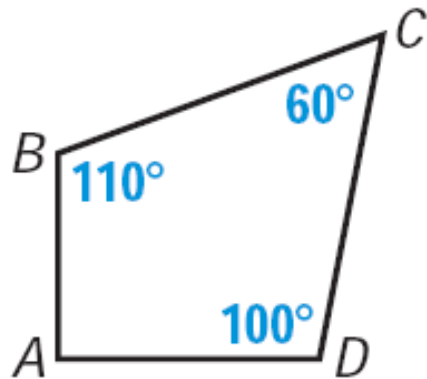
Divide each quadrilateral into 2 triangles.



Checkpoint Find Angle Measures of Quadrilaterals

Find the measure of $\angle A$.

1.

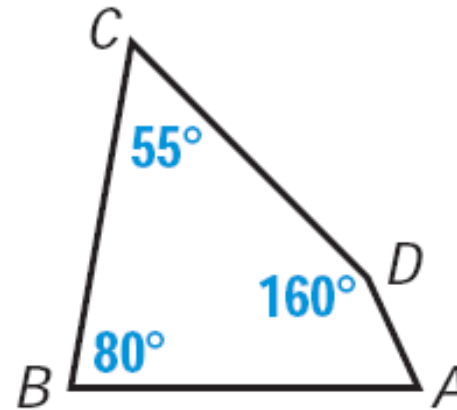


$$m\angle A + 110 + 60 + 100 = 360$$

$$\begin{array}{r} m\angle A + 270 = 360 \\ - 270 \quad - 270 \\ \hline \end{array}$$

$$m\angle A = 90^\circ$$

2.



$$m\angle A + 80 + 55 + 160 = 360$$

$$\begin{array}{r} m\angle A + 295 = 360 \\ - 295 \quad - 295 \\ \hline \end{array}$$

$$m\angle A = 65^\circ$$