Vocabulary for 1.6

Polygon shape with straight sides that meet at vertex. It is a closed figure, no curves

convex no vertex in interior

concave vertex in interior of polygon

n-gon - number of a polygon's sides can be used to name the polygon

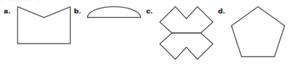
equilateral - all sides have same length

equilangular - all angles have same measure

regular - convex polygon that is both equilateral and equilangular

**Identify polygons**

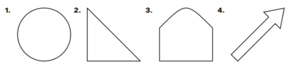
**Tell whether the figure is a polygon and whether it is *convex* or *concave*.**




**a.** The figure is a concave polygon.
**b.** Part of the figure is not a segment, so it is not a polygon.
**c.** Some segments intersect more than two segments, so it is not a polygon.
**d.** The figure is a convex polygon.

**Exercises for Example 1**

**Tell whether the figure is a polygon and whether it is *convex* or *concave*.**

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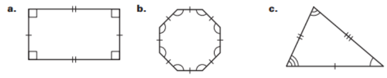
**Classify polygons**

**Classify the polygon by the number of sides. Tell whether the polygon is *equilateral, equiangular,* or *regular. Explain* your reasoning.**




**a.** The polygon has 4 sides, so it is a quadrilateral. The angles in the interior of the polygon are congruent, so it is equiangular. Not all of the sides are congruent, so it is not equilateral. So, the polygon is not regular.
**b.** The polygon has 8 sides. It is equilateral and equiangular, so it is a regular octagon.
**c.** The polygon has 3 sides, so it is a triangle. It is not equilateral or equiangular, so it is not regular.

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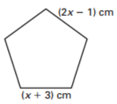
**Find side lengths**

**The figure shown at the right is a regular pentagon. Find the length of a side.**

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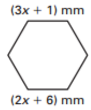
The figure shown at the right is a regular hexagon. Find the length of a side.

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