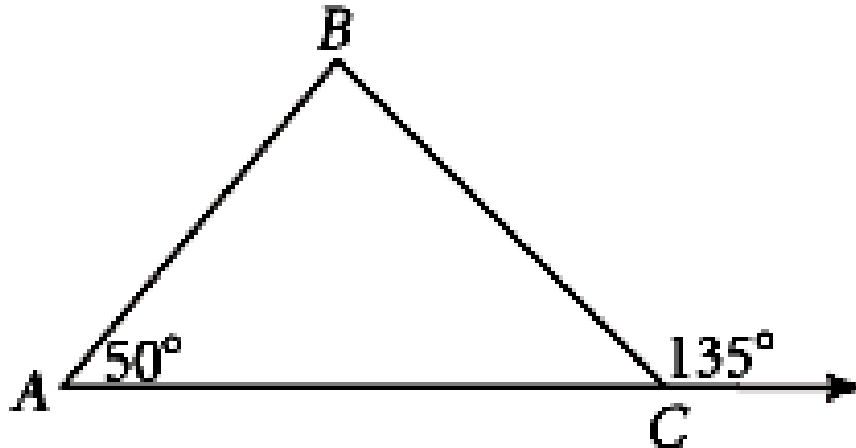


Triangle Angle Sum

1

Given $\triangle ABC$ below, what is $m\angle B$? (Lesson 3-4)



(A) 45°

(B) 85°

(C) 95°

(D) 100°

2

An isosceles triangle has two angles measuring 48 and 84. What is the measure of the third angle?

(Lesson 4-5)

(A) 84

(B) 51

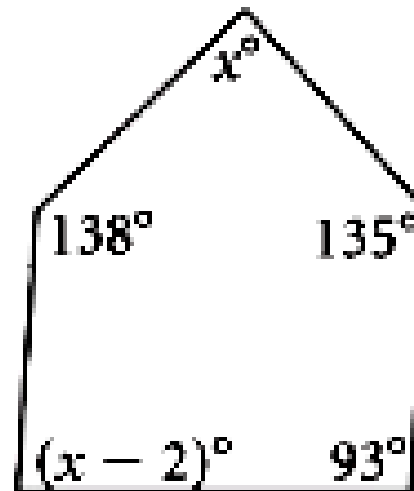
(C) 49

(D) 48

**Polygon
Interior
Angle
Sum**

1

What is the value of x in the figure below?
(Lesson 3-5)













A 88

B 86

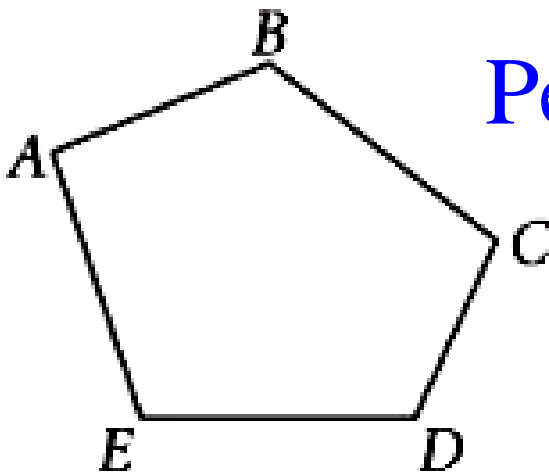
C 78

D 68

Special names for Polygons

Types of Regular polygons		
Types	Sides	Shapes
Triangle	3	
Quadrilateral	4	
Pentagon	5	
Hexagon	6	
Heptagon	7	
Octagon	8	
Nonagon	9	
Decagon	10	
Hendecagon	11	
Dodecagon	12	

polygon

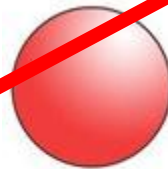
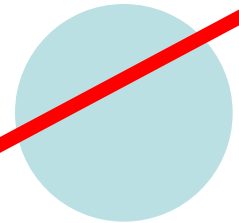
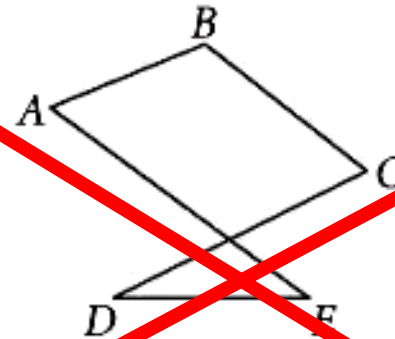
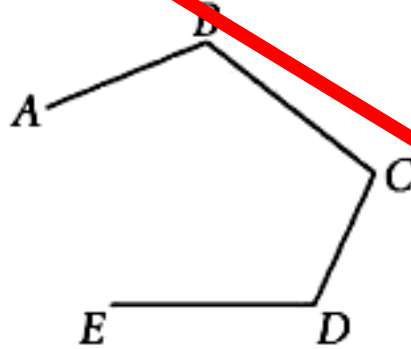


Pentagon $ABCDE$

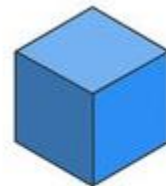
A polygon

- Closed plane figure
- Sides intersect at endpoints only

Not a polygon;



sphere

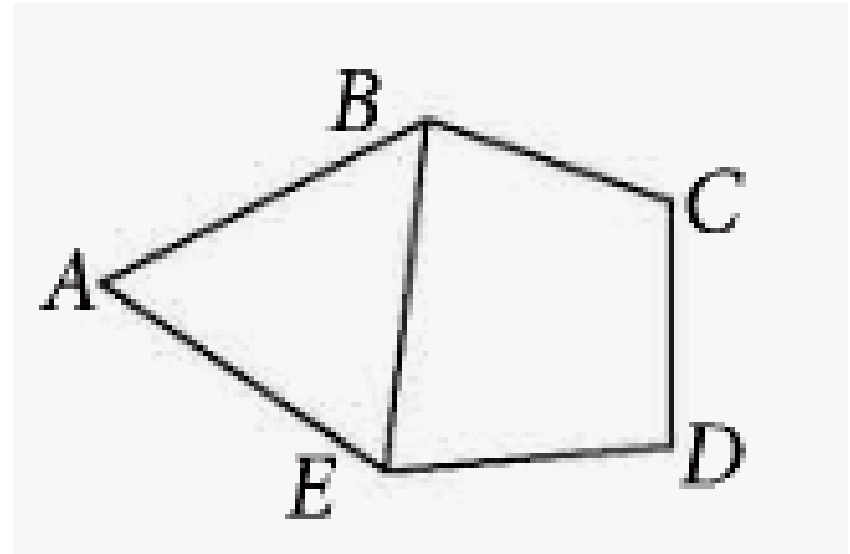


cube



pyramid

Three polygons are
pictured, name them!

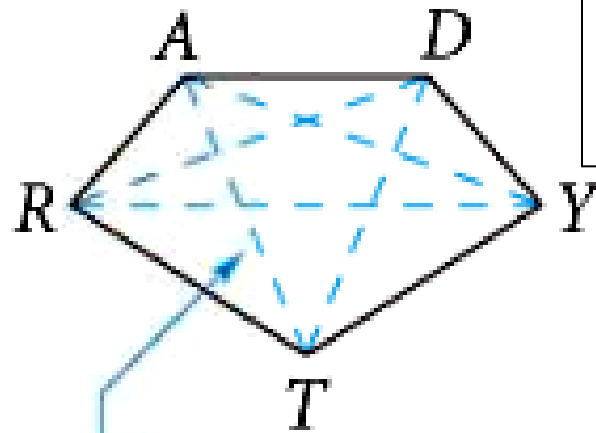


$\triangle ABE$

Quadrilateral $BCDE$

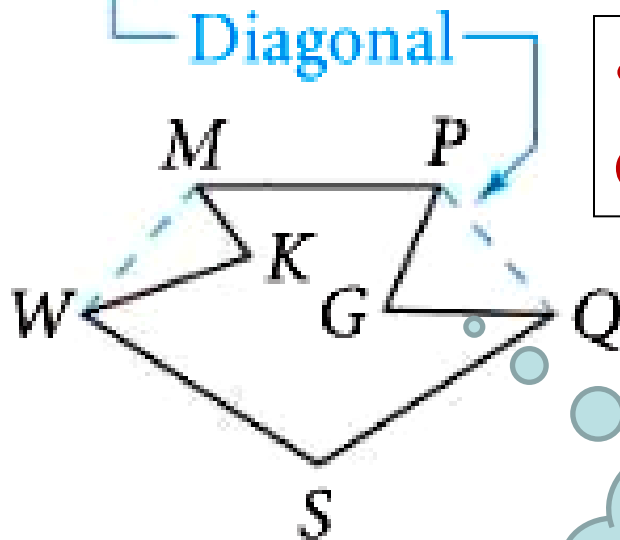
Pentagon $ABCDE$

convex polygon



• **Diagonals
inside**

concave polygon

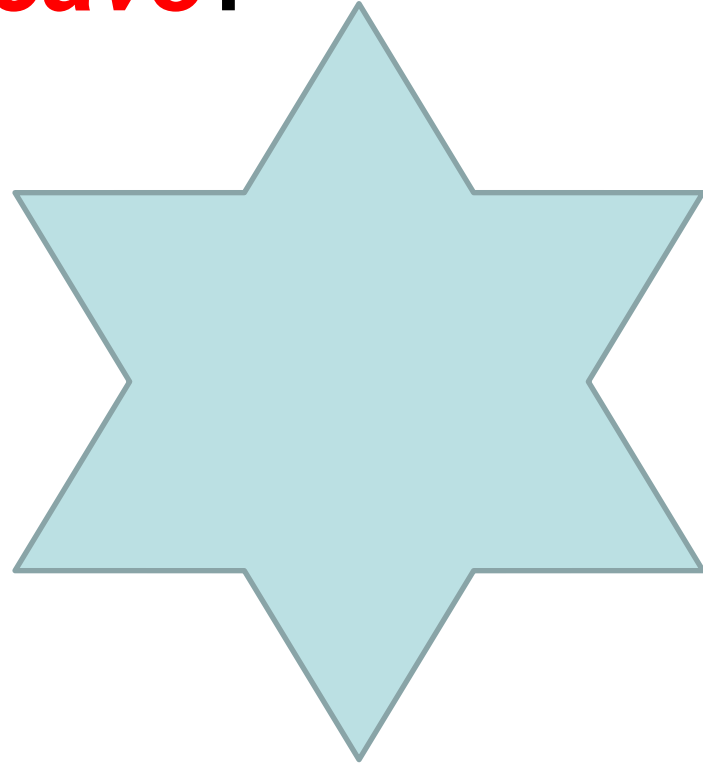


• **Diagonal
outside**

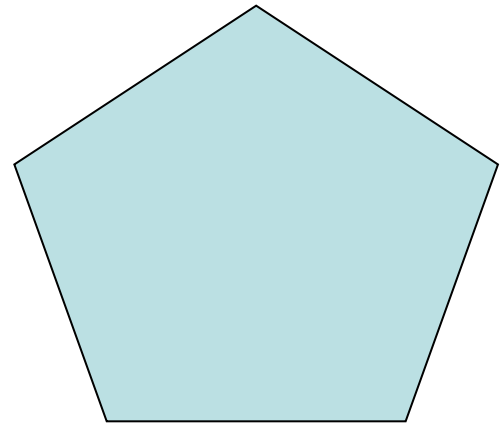
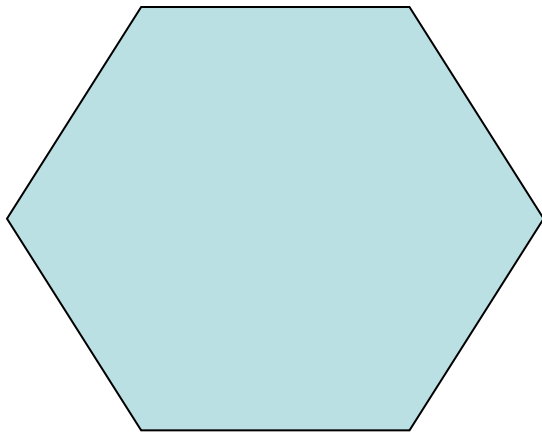
Cave in!

Classify the polygon shown.
Is it ***convex*** or ***concave***?

**Dodecagon
concave**



**Polygon
Interior
Angle
Sum**

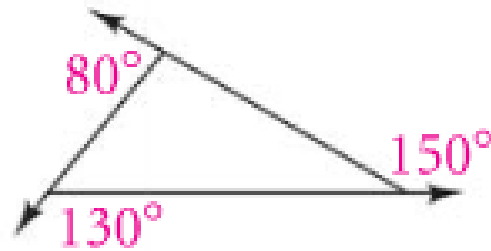


$$(n - 2)180.$$

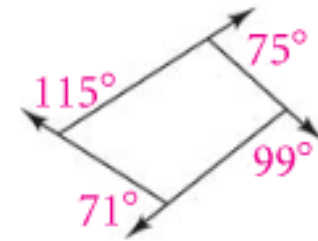


Polygon Exterior Angle-Sum Theorem

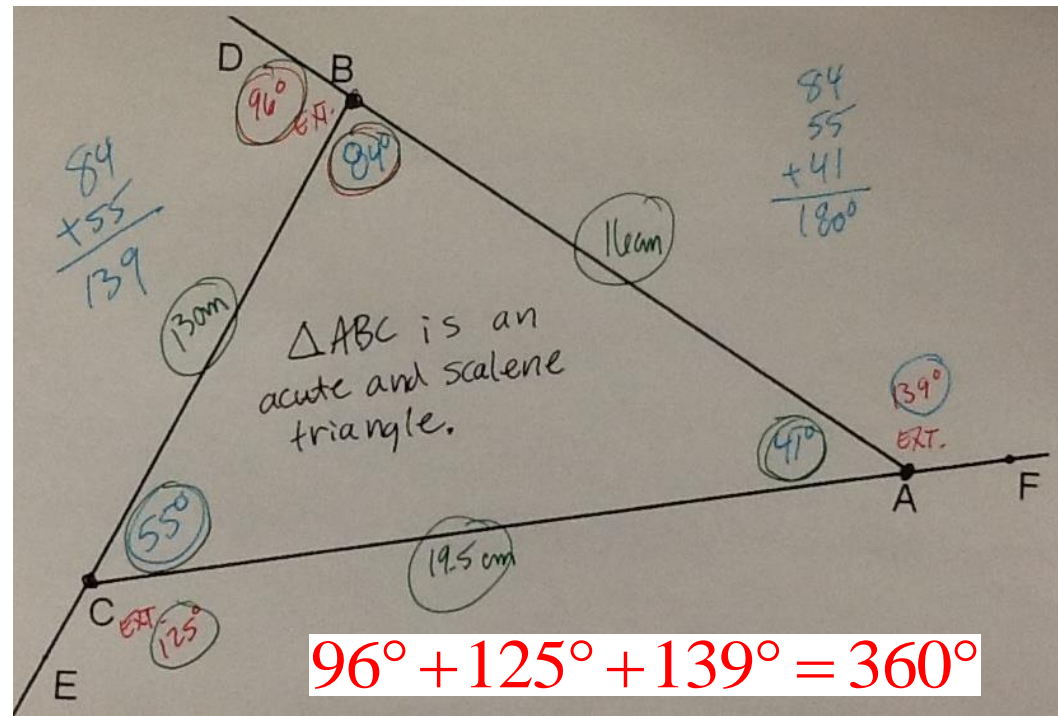
360°



$$80 + 150 + 130 = 360$$



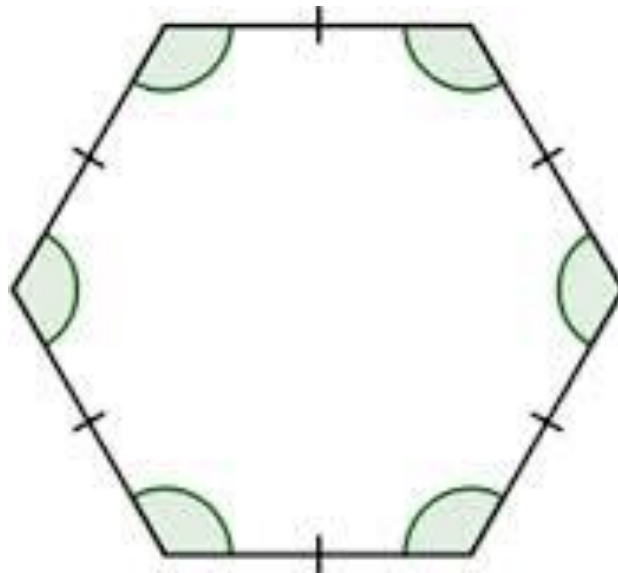
$$115 + 75 + 99 + 71 = 360$$



An equilateral polygon has Congruent sides

An equiangular polygon has Congruent angles

A regular polygon is Equilateral and Equiangular



•Find an
interior angle

$$n = 6$$

$$(n - 2) \cdot 180^\circ$$

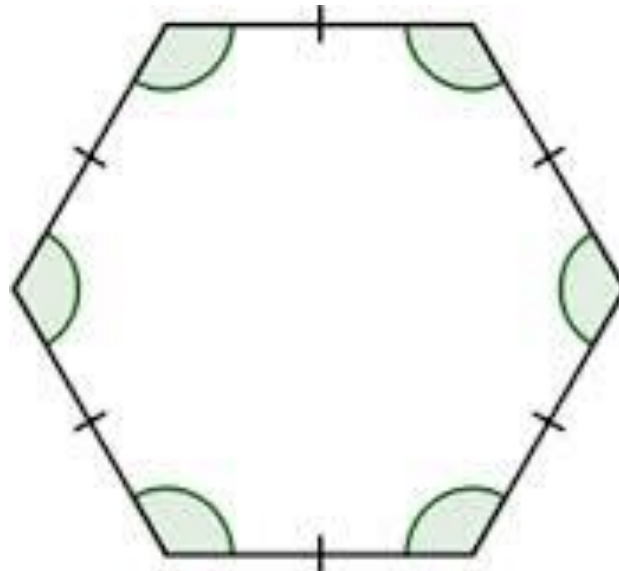
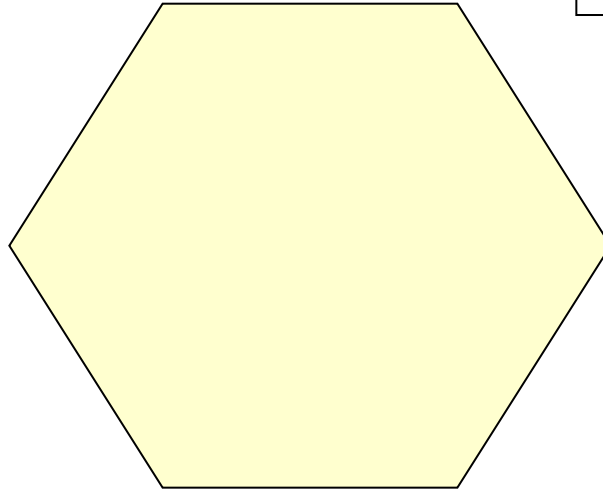
$$(6 - 2) \cdot 180^\circ$$

$$(4) \cdot 180^\circ$$

$$720^\circ$$

$$\frac{720^\circ}{6} = 120^\circ$$

Regular



•Find an
exterior angle

$$\frac{360^\circ}{6} = 60^\circ$$

Assignment

Polygon Shape Handout

New Vocabulary

- polygon
- convex polygon
- concave polygon
- equilateral polygon
- equiangular polygon
- regular polygon