12/4/19 - Warm Up Problem

1. Would sides lengths of 2 cm, 6 cm, and 9 cm make a triangle?

NO   8

2. Would side lengths of 12 in, 24 in, and 13 in make a triangle?

Yes   25

3. If two sides of a triangle are 15 ft and 32 ft, what is the range of possible lengths for the 3rd side?
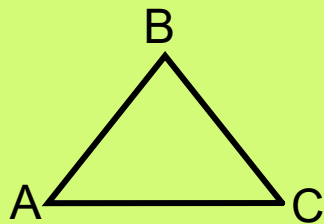
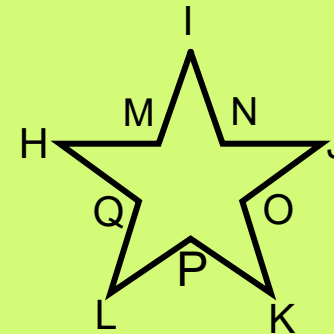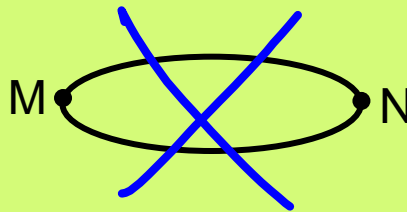$17 < x < 47$

Concept 14 - Classifying Polygons

Goal: Classify different types of polygons
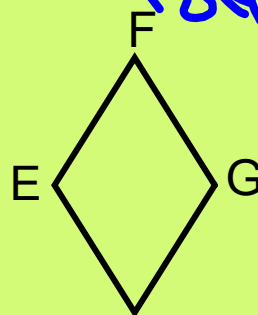
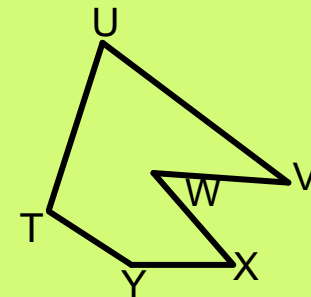Polygon: a closed plane figure formed by 3 or more line segments

Is each a polygon?
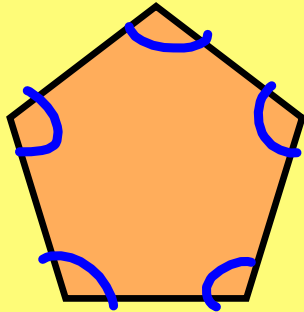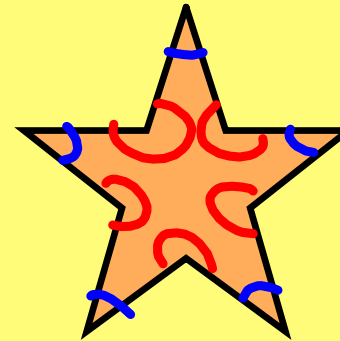
ΔABC

Polygon HMINJOKPLQ
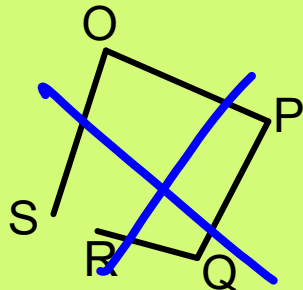
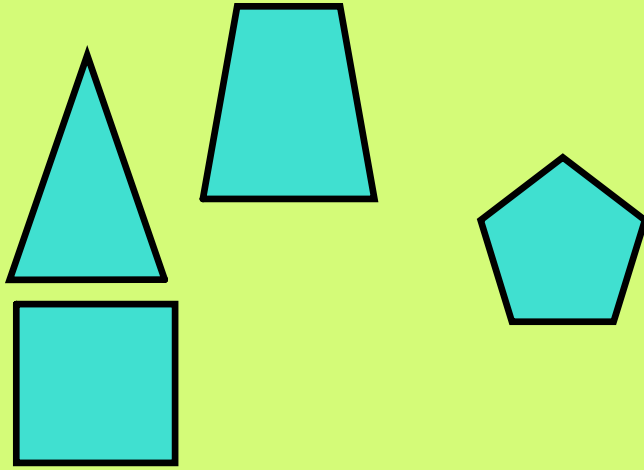Polygon FGHE   Polygon TUVWXY

Classifying Polygons

CONVEX: all interior angles are less than 180°
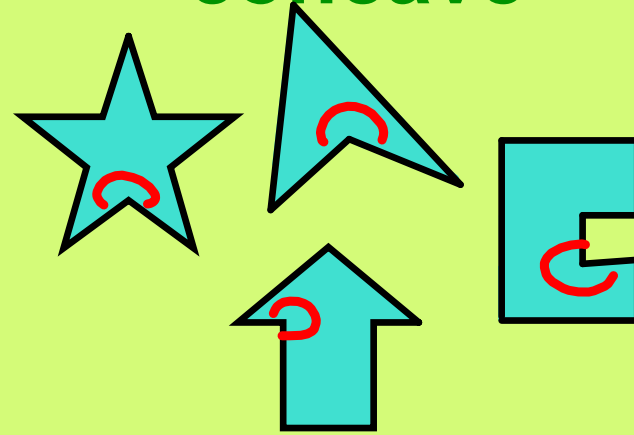- all angles point outward

CONCAVE: at least 1 interior angle that is larger than 180°
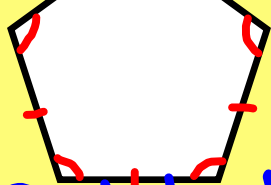- one or more angles point inward

convex

concave
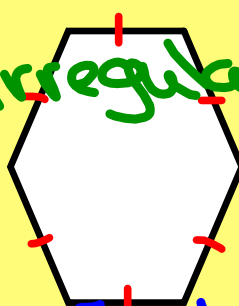
Equilateral:

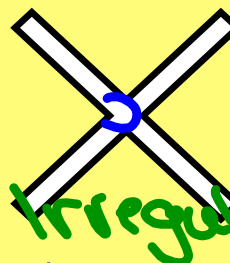Equiangular:

Regular Polygon:

Regular

Irregular

Irregular

Regular

Equilateral
Equiangular

Equiangular
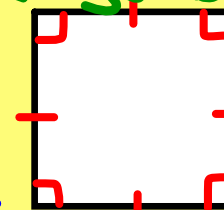
Equilateral

Equilateral
Equiangular

Classifying Polygons – by # of sides

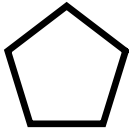|		
△	3	Triangle
▢	4	Quadrilateral
⬠	5	Pentagon
⬡	6	Hexagon
⬡	7	Heptagon

⯃	8	Octagon
⬡	9	Nonagon
⬡	10	Decagon
	12	Dodecagon
	n	n-gon

Assignment:
Concept 14 Worksheet (1-14)
- due next Friday 12/13

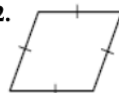<u>CLASSFIYING POLYGONS</u>

Classify each polygon in 3 ways: **1) by its number of sides**
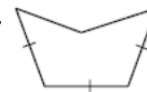**2) as convex or concave**
3) as regular or irregular

1.

Hexagon
Convex
Regular

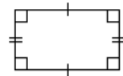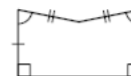**2.**

Quadrilateral
Convex
Irregular

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

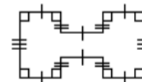**13.** Draw a concave, irregular, octagon.   **14.** Draw a convex, irregular heptagon.