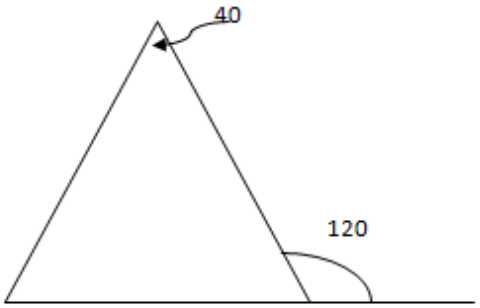
Warmup 12/3/2009

1. $\frac{1}{3} + \frac{2}{3}$

2. $\frac{7}{4} - \frac{1}{4} + \frac{2}{4}$

3. $\frac{2}{3} + \frac{1}{2}$

Find the unknown angles



Plan for today

- Introduction to Polygons! (Chapter 5)
- Vocab and basic concepts
- Examples

Where have we been?

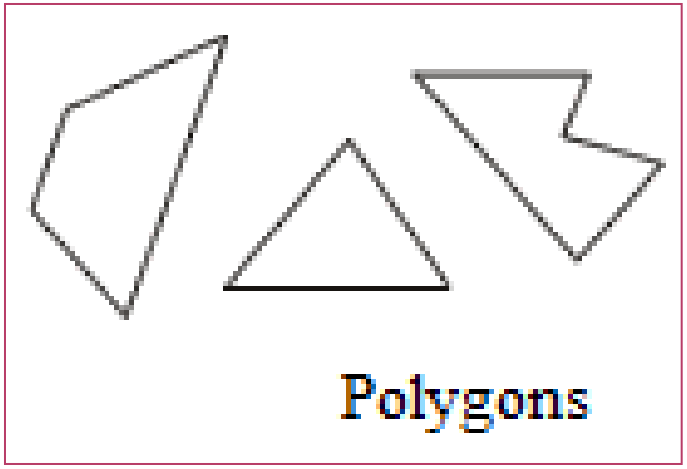
- So far this year….
- Parallel lines
- Triangles (3 sides)
- Now we are moving up in the sides world
- After this comes circles

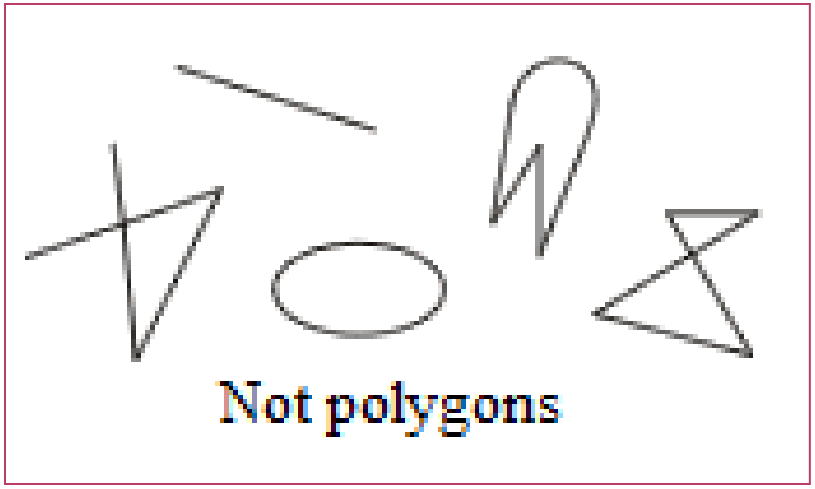
On scratch paper

- Draw a shape with 6 sides.
- Now, draw different one.
- We'll draw several up on the board.
- Everyone pick two hexagons and write a word that describes each one.

Definitions

- **Polygon**: closed figure made up of line segments that don't cross





What makes up a polygon?

- Side: One of the line segments
- Vertex: Where two line segments meet.
- If we have more than one vertex, we say "vertices"

Definitions

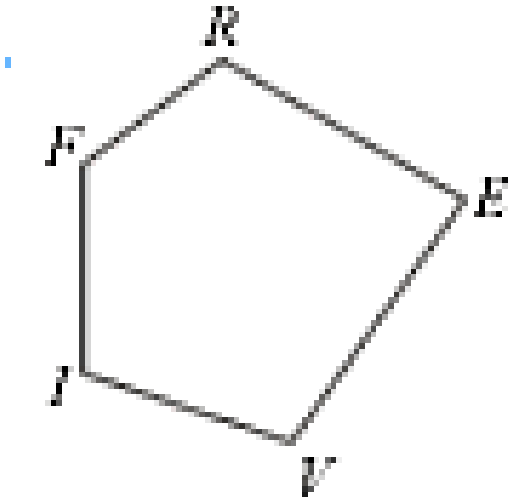
- Equilateral:
  - Equal sides.
- Equiangular:
  - Equal angles.
- Regular:
  - Equal angles AND equal sides.

More definitions

- Diagonal:
  - A line connecting two vertices.
- Convex:
  - A polygon is convex if no diagonal is outside the polygon.
- Concave:
  - A polygon is concave if at least one diagonal is outside the polygon.

Naming polygons

- We use letters to name polygons just like we did triangles.
- You can start with any letter, but then you have to go in the order they appear.



YES: FIVER

YES: REVIF

NO: EFVIR

NO: VREIF

Words for polygons

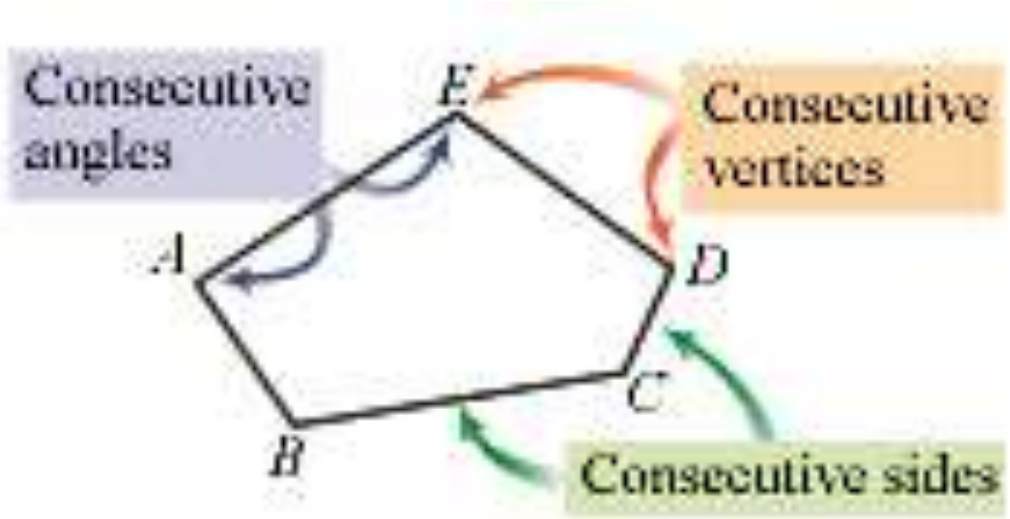
- We classify by number of sides

Sides	
3	Triangle
4	Quadrilateral
5	Pentagon
6	Hexagon
7	Heptagon
8	Octogon
9	Nonagon
10	Decagon
11	Undecagon
12	Dodecagon
n	*n*-gon

More definitions

- Consecutive angles:
  - Angles that are next to each other
- Consecutive sides:
  - Sides that are next to each other
- Consecutive vertices:
  - Vertices that are next to each other

Picture


Consecutive angles
E
Consecutive vertices
A
D
C
B
Consecutive sides

How many degrees are in the angles of a polygon?

- Pass out rulers
- GSP file

Polygon Sum Conjecture

- The sum of the measures of the n interior angles of an n-gon is:

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

Exercises

- Together, we'll work on the given exercises

HW 46

- Pg. 257 # 3, 6-9, 12 a-d, 13, 14