

Mr. Northcutt's Math Classes Class Presentation

Wednesday, September 24, 2008 (16)



Math 1



Math 2



Applied Math

Math 1 – Daily Summary

- **Announcements**

- Hand-in Problems (Fractions) from Class Yesterday
- Substitute on Friday
- Chapter 1 Test: Next Tuesday, 9/30

- **Class Objectives**

- Distributive Property
 - Removing Grouping Symbols
 - Like Terms
 - Combining Like Terms
 - The Phrase...“the quantity”



ADVISORY:
Very Important
Lesson!

- **Assignment**

- 1-7: 3-48 (by 3), 74-82 EVEN

Distributive Property

- The Distributive Property is used to multiply a sum (+) or a difference (-) by a number.

“Distribute”

$$\begin{aligned} 5(20 + 4) &= 5(20) + 5(4) \\ &= 100 + 20 \\ &= 120 \end{aligned}$$

“Distribute”

$$\begin{aligned} 5(30 - 2) &= 5(30) - 5(2) \\ &= 150 - 10 \\ &= 140 \end{aligned}$$

Works great for
“mental” math.

$$13(103) =$$

$$24(98) =$$

$$6(\$4.99) =$$

Using with Algebraic Expressions

- Use to remove grouping symbols from expressions.

$$6(m + 5) =$$

$$(3 - 7t)2 =$$

$$-(2x + 1) =$$

$$(3 - 8a)(-1) =$$

“Like Terms”

- **Term:** A number, a variable, or the product of a number and one or more variables.
 - Terms are separated by “-” and “+”

$$6a^2 - 5ab + 3b^2 - 12$$

4 Terms

Coefficients

Constant Term

- **Like Terms:** Have exactly the same Variable Factors.

Which pairs are
Like Terms?

$3x \text{ and } -2x$

$-5x^2 \text{ and } 9x^2$

$4y \text{ and } 5xy$

$8x \text{ and } 7y$

$xy \text{ and } -xy$

$x^2y \text{ and } yx^2$

Combining “Like Terms”

- **Distributive Property** allows us to “combine like terms”.
- An algebraic expression in **Simplest Form** has **NO LIKE TERMS**.

$$7y + 6y = (7 + 6)y \\ = 13y$$

$$-9y^2 - 3y^2 = (-9 - 3)y^2 \\ = -12y^2$$

Combine Coefficients
of Like Terms

$$2x^2 - 3xy - x^2 + 2xy + xy$$

The Phrase...“the quantity”

- The phrase “the quantity” indicated two or more terms are in parentheses ().
 - -2 times the quantity t plus 7
 - The product of 14 and the quantity 8 plus w .

Math 2 – Daily Summary

- **Announcements**

- Substitute on Friday
- Quiz Monday (Lessons 2.1 thru 2.6)

- **Class Objectives**

- Quiz Results Summary & Review
- Polygons

- **Assignment**

- Lesson 2.5: 1-20, 28-32

Quiz Results Summary & Review

- **Quiz Results**

- Average = 28 (**78%**)
- High = 36 (**100%**)
- Low = 12

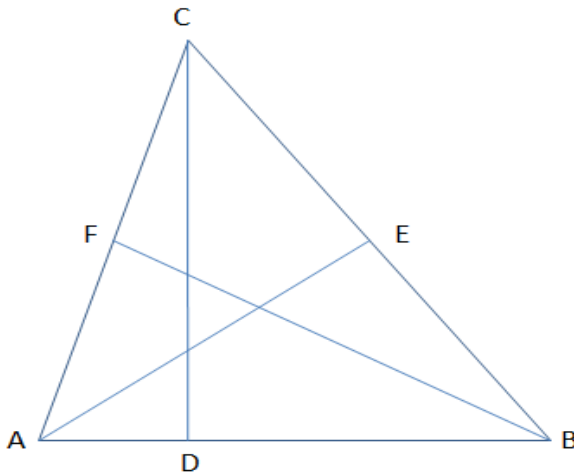
- **Most Common Mistakes**

- #2: “The ray from R through points P or Q” is written in symbolic form as \overrightarrow{RQ} or \overrightarrow{RP}
- #4: The length of line segment PQ is written in symbolic form as \overline{PQ}

Quiz Review

- **#9: Vertical Angles** $\angle BEL$ and $\angle TED$

- **#10: Point F is the midpoint of \overline{AC} , $\angle CDB$ is a right angle, and \overline{AE} and \overline{BF} are angle bisectors.**



Quiz Review

- #12

$$\overline{AB} \parallel \overline{CD}$$

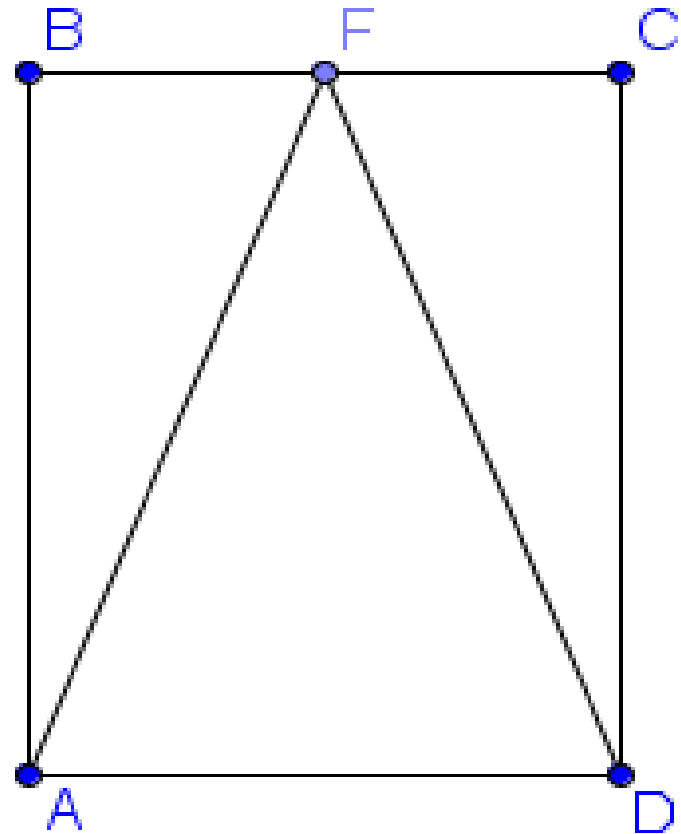
$$\overline{AB} \perp \overline{BC}$$

$$\overline{CD} \perp \overline{BC}$$

$$AF = FD$$

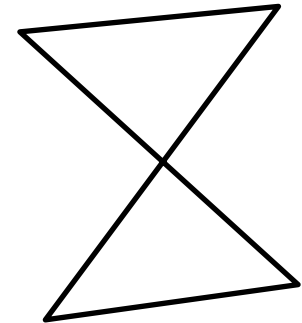
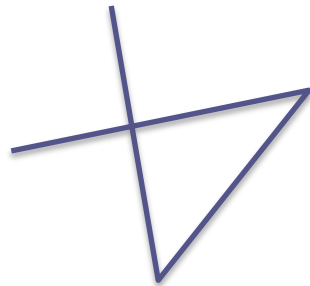
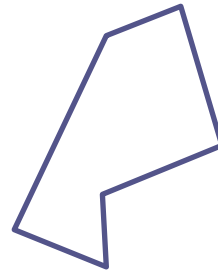
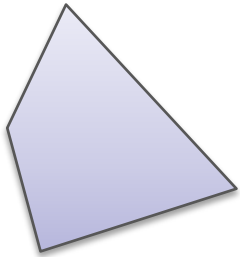
$$m\overline{BF} = m\overline{FC}$$

$$m\angle FAD = m\angle FDA$$



Polygons

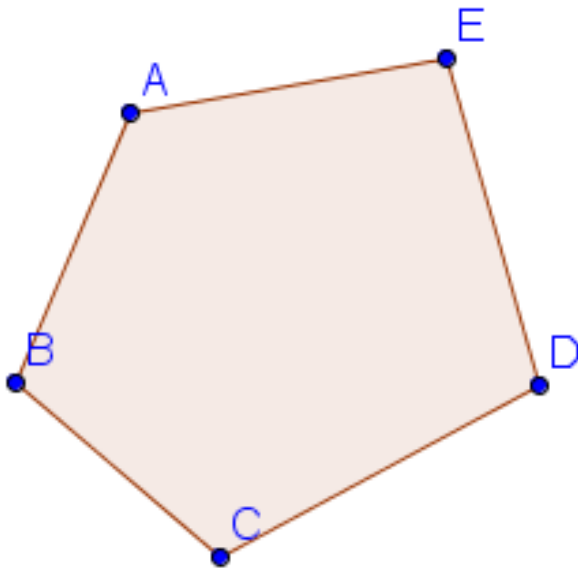
- **Polygon:** A closed geometric figure in a plane, formed by connecting line segments endpoint to endpoint with each segment intersecting exactly two others.



Parts of a Polygon

- **Components of a Polygon**

- **Side:** Each line segment of a polygon.
- **Vertex:** Each endpoint where sides meet.



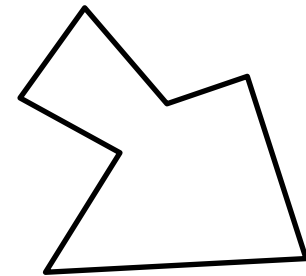
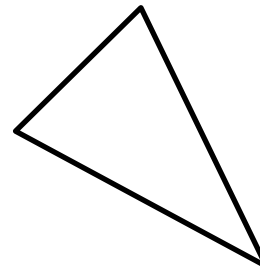
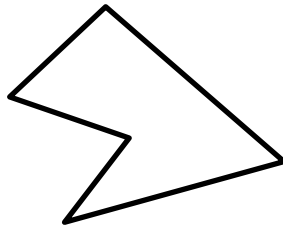
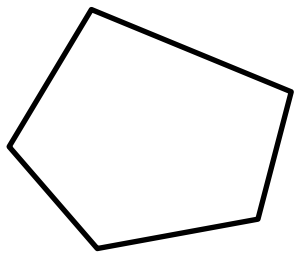
Convex and Concave Polygons

- **Convex Polygon**

- No segment connecting two vertices is outside the polygon.

- **Concave Polygon (WILL NOT USE)**

- At least one segment connecting two vertices is outside the polygon.



Naming Polygons

- **Consecutive Vertices**

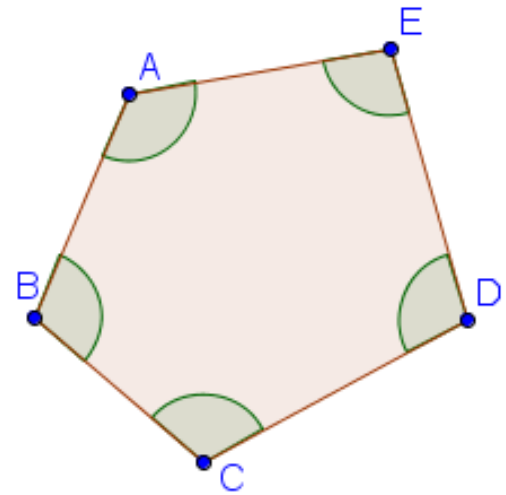
- Two vertices which are connected by a side.

- **Consecutive Sides**

- Two sides that share a common _____.

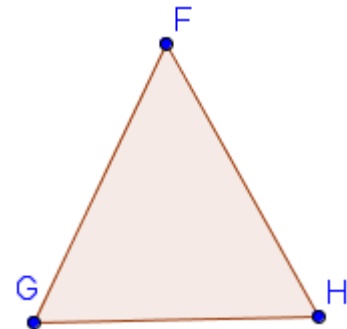
- **Consecutive Angles**

- Two angles that share a common _____.



- **Name a Polygon** by listing its vertices in consecutive order (many variations available).

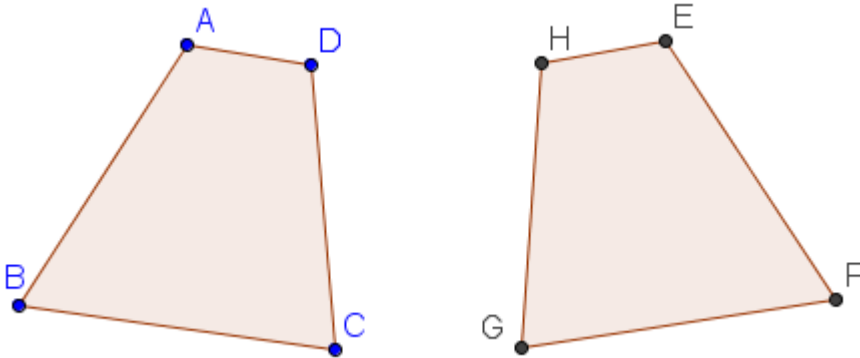
For Triangle
can use the
Symbol Δ



Congruent Polygons

- **Congruent Polygons**

- Polygons that are exactly the same size and shape...
- **CORRESPONDING ANGLES AND SIDES ARE CONGRUENT**



$$\overline{AD} \cong \overline{EH}$$

$$\angle A \cong \angle E$$

$$\overline{DC} \cong \overline{HG}$$

$$\angle D \cong \angle H$$

$$\overline{CB} \cong \overline{GF}$$

$$\angle C \cong \angle G$$

$$\overline{BA} \cong \overline{FE}$$

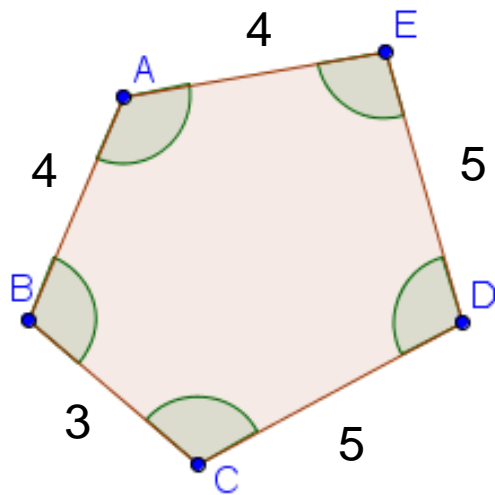
$$\angle B \cong \angle F$$

$$ADCB \cong EHGF$$

Perimeter of a Polygon

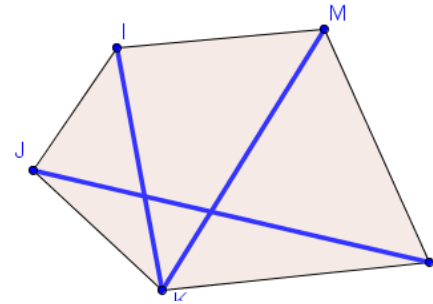
- **Perimeter of a Polygon**

- Sum of the lengths of the sides of a Polygon.

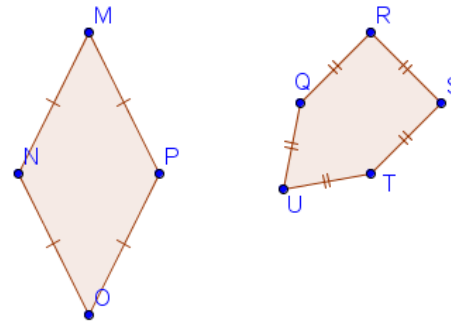


More Definitions

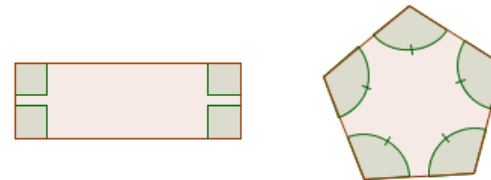
- **Diagonal of a Polygon**



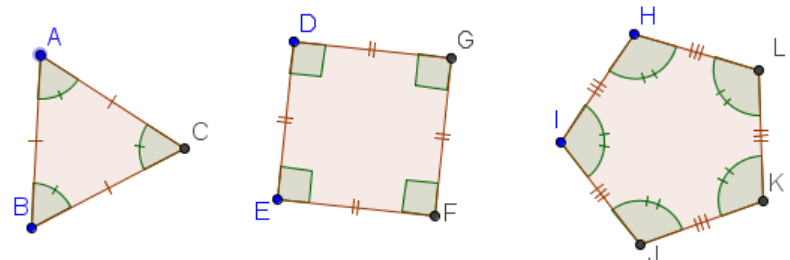
- **Equilateral Polygon**



- **Equiangular Polygon**



- **Regular Polygon**



Applied Math – Daily Summary

- **Announcements**

- Quiz Friday (Sections 1.1 thru 1.12)
- Substitute on Friday

- **Class Objectives**

- Rounding Numbers
 - To Place Value
 - To Significant Digits (**WARNING:** This may be a new concept for you.)

- **Assignment**

- Lesson 1.11: 3-33 ODD

HW Review 1.10

- 9: four thousandths
- 11: 71.0021
- 13: 43.0101
- 16: 0.64
- 21: 1.27
- 24: 25.125
- 29: $11/100$
- 32: $3 \frac{7}{50}$
- 41: 15.308
- 55: $a=4.56$ cm, $b=4.87$ cm
- 56: 25.76 cm
- 66: $a=1.84$ cm, $b=3.02$ cm
 $c=0.82$ cm
- 68: $l=5.75$ in, $A=6.25$ in

Rounding Numbers: Place Value

If digit in the next “place”
to the right is:

<5: Drop all digit to
right. Use “0” to
replace any whole
number digits
dropped.

>=5: Increase “place”
digit by 1. Use “0” ...

23.4**5**5

to hundredths

158.**6**147

to tenths

23**4**56.45

to hundreds

0.00**3**45

to ten thousandths

Rounding Numbers: Significant Digits

1. Count the number of significant digits (left-right) – starting with first non-zero digit.
2. Using the digit in the next “place” to the right and round like place value rounding

of Significant Digits?

- All non-zero digits
- All zeros between non-zero digits
- All zeros at the end of a decimal

258

2007

2.000

0.09500

Round to “Significant Digits”:

2571.88 4

345,175 4

0.0030162 3

24.00055 5