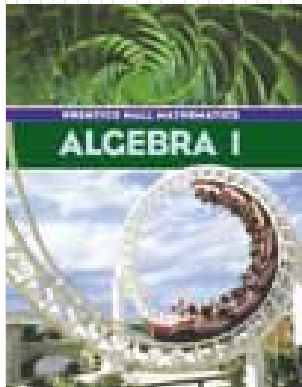




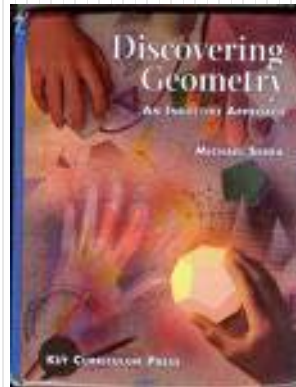
Mr. Northcutt's Math Classes Class Presentation



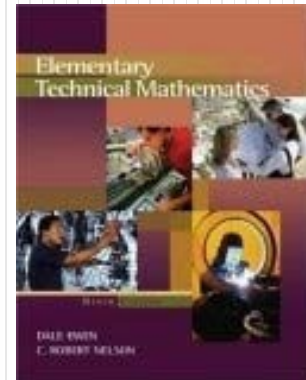
December 9, 2008 (64)



Math 1



Math 2



Applied Math



Math 1 – Daily Summary

- **Announcements**

- **TEST: Sections 8-1 thru 8-5 MONDAY!**

- **Class Objectives**

- Quiz Review

- Zero and Negative Exponents
- Multiplication of Powers (with same Base)
- Simplification of Terms with Powers

- New Concepts to Understand:

- Powers of Powers (Power Raised to an Exponent)

- **Assignment**

- **Lesson 8-4: 1-8, 32-40, 51, 62-67**



Some More Math Advice...

- **Work Math Problems with a Pencil**
- **Ask Yourself “Why?” When You are Doing Something...**
 - And you better have a good reason!
- **Take 1 Step at a Time...Don't do Too Much at Once**



Gaps from Quiz

- **Zero & Negative Exponent**
- **Multiplication of Exponents (common base)**
- **“Scope” of Exponent**
- **Simplification**
 - Zero Exponent & Dropping the “1”
 - Common variable(s) in numerator & denominator
 - Combining numbers
 - Combining “like bases”
- **Evaluating Terms with Exponents**
- **Scientific Notation (pretty good – except negative sign!)**



Problems to Review

#1: Zero & Negative Exponents

#4,6: Multiplication & Simplification

#7: Multiplication, Zero & Negative Exponents

#10, 11, 12 Evaluating Expressions

#14, 20 Scientific Notation & Negative Numbers

On Whiteboard - Simplify



$$3a^{-3}b^4c^{-2}d^0$$

$$\frac{x^{-3}y^4x^0}{y^2z^{-6}}$$

$$\frac{(2x^2)(5y^{-4})(4x^0)}{(8x^{-2})(4y^{-6})}$$



Powers to a Power

Remember the
Definition of a Power

- We have seen this already...

$$x^3 \cdot x^4 \quad \text{vs.} \quad (x^3)^4$$

- Examples (on Whiteboard)

$$(n^4)^3 \cdot n^5 \quad t^2 \cdot (t^7)^{-2} \quad (a^4)^2 \cdot (a^2)^5$$



Math 2 – Daily Summary

- **Announcements**

- **QUIZ: Lessons 6-1 thru 6-3 on FRIDAY!**

- **Class Objectives**

- Chapter 5 Test Review
 - Triangle Congruence
 - Flowchart Proof
 - Equations of Lines
 - Operations with Polynomials (multiplication & division)
- Properties of Polygons: Sum of Interior Angles

- **Assignment**

- **Lesson 6.1: 1-19 ALL**



Some More Math Advice...

- **Work Math Problems with a Pencil**
- **Ask Yourself “Why?” When You are Doing Something...**
 - And you better have a good reason!
- **Take 1 Step at a Time...Don't do Too Much at Once**

Test: #2 (14), #5(20), #7(18) & #9(16)



2: If the coordinates of the segment with endpoints (4,-3) and (-1,2) are reversed (x and y values interchanged), then the slope of the segment does not change.

5: If the base angles of an isosceles triangle are complementary, then the triangle must be acute.

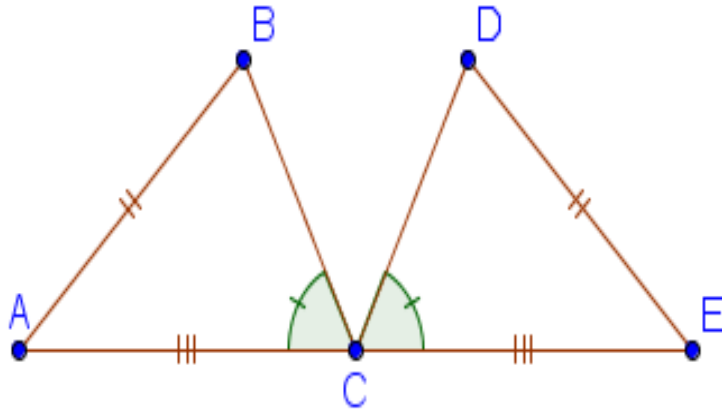
7: If the corresponding sides of two triangles are congruent then the triangles must be congruent.

9: The line $2y=x+5$ is perpendicular to the line $6x+3y=8$.

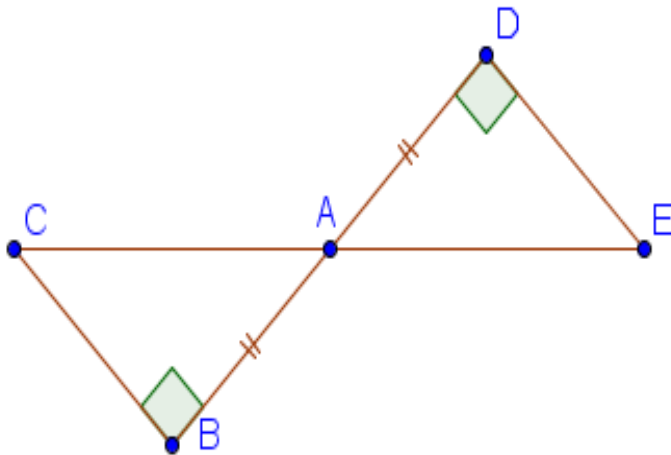


Test: #12 (21) & #13 (14)

12:



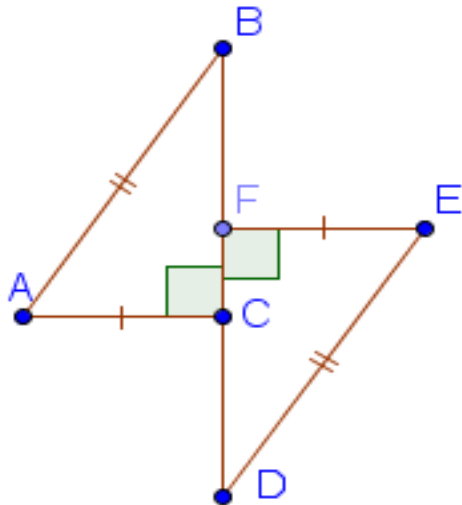
13:



Test: #14 (13)



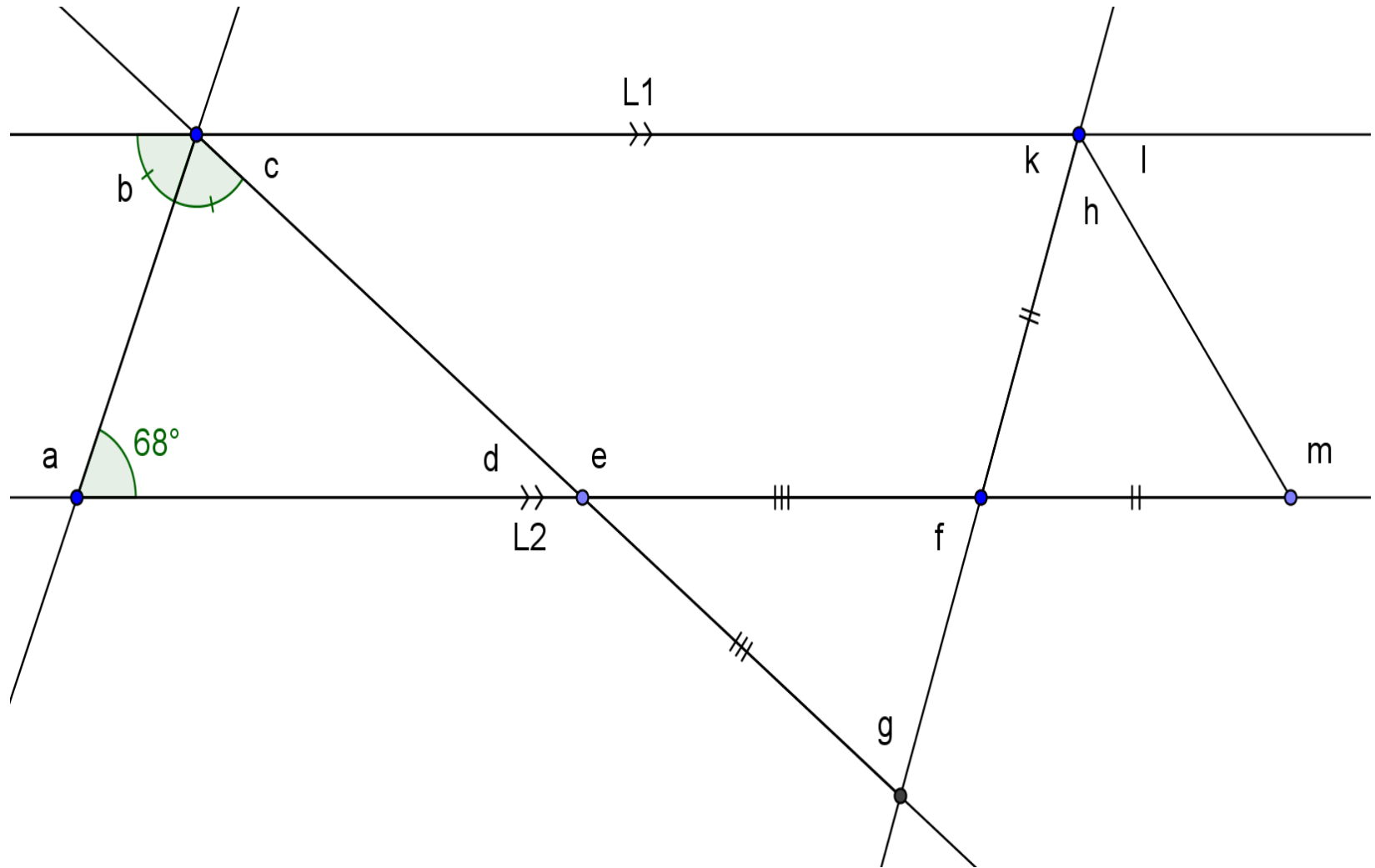
14:



Test: #16 (16)



16:

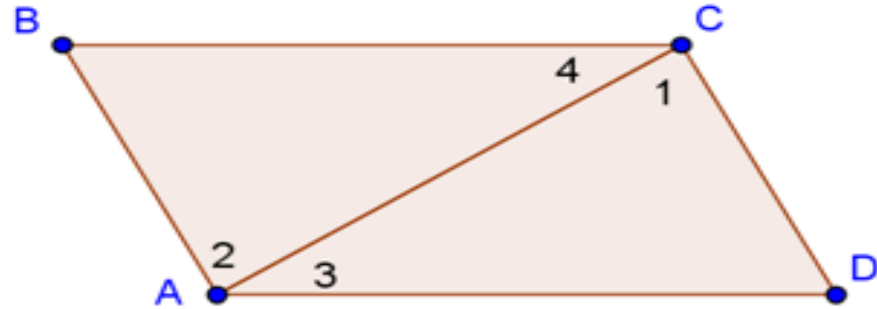




Test: #17 (17)

Given: $\angle 1 \cong \angle 2$
 $\angle 3 \cong \angle 4$

Show: $\overline{AB} \cong \overline{CD}$



$\angle 1 \cong \angle 2$
1. _____

$\angle 3 \cong \angle 4$
2. _____

4. _____

Δ _____ \cong Δ _____
5. _____

6. _____



Test: #20(23), #23(19), #24(19)

20: Find the point of intersection of the two lines.

$$3x - y = 3 \quad x - 2y = -4$$

23: $(y^2 - 3y^2 + y) \cdot (2y^2 + 1)$

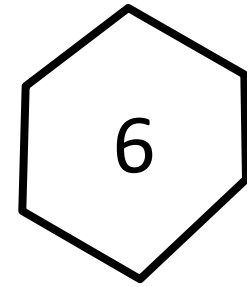
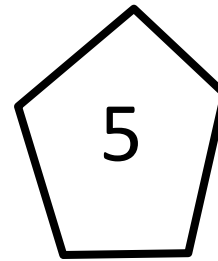
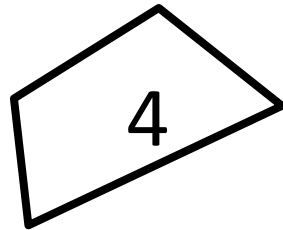
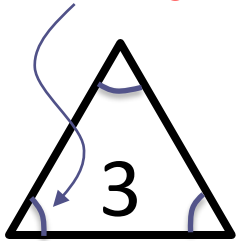
24: $(2x^3 + x^2 + x - 1) \div (2x - 1)$



Investigation (Get a Protractor)

- Draw the following figures on a sheet of paper and measure the sum the interior angles for each one...

Interior Angle



Number of Sides	3	4	5	6
Sum of Angles				

- Add another perspective on Whiteboard...with Triangles.

Polygon Interior Angle Conjectures



- **Quadrilateral Sum Conjecture**

- The sum of the measures of the four interior angles of every quadrilateral is 360° .

- **Polygon Sum Conjecture**

- The sum of the measures of the n interior angles of an *n-gon* is **$(n-2)(180)$** .

Applied Math – Daily Summary



- **Announcements**

- **Test: Chapter 7 – Ratio & Proportion on Monday**
- **Next Week: Project - Scale Drawings (Pick a Subject)**

- **Class Objectives**

- **Ratio:** Definition & Use in Calculations
- **Rate:** Definition & Use in Calculations
- Tracking Units with Rates (link to Dimensional Analysis)

- **Assignment**

- **Lesson 7.1:** 2-32 EVEN, 34, 42, 46, 54



Some More Math Advice...

- **Work Math Problems with a Pencil**
- **Ask Yourself “Why?” When You are Doing Something...**
 - And you better have a good reason!
- **Take 1 Step at a Time...Don't do Too Much at Once**



Ratio – Comparing Two Numbers

- **Ratio**

- The comparison of two numbers by division.

- You may see ratios written in several different ways. For example, the ratio of 4 to 5 may be written as:

$$\frac{4}{5} \quad 4/5 \quad 4:5 \quad 4 \div 5$$

- And read as... **"The Ratio of 4 to 5"**.



Ratio – Common Units → Unit-Less

- Ratios compare two numbers that have a common unit of measure (i.e., inches to inches)
- Ratios should be written in lowest terms (reduced).
- A Ratio is a “unit-less” number.
- **Example:** Find the ratio of 3 ft to 18 in.

$$\frac{3\text{ ft}}{18\text{ in}} = \frac{36\text{ in}}{18\text{ in}} = \frac{\cancel{18} \times \cancel{2\text{ in}}}{\cancel{18} \times \cancel{1\text{ in}}} = \frac{2}{1} = 2$$

“2 to 1”

Common
Units

Lowest
Terms

Unit-Less



Ratio – Using Fractions

- To find the ratio of two fractions you must divide two fractions (multiply by the reciprocal).
- **Example:** Find the ratio of $2/3:8/9$.

$$\frac{2}{3} \div \frac{8}{9} = \frac{2}{3} \cdot \frac{9}{8} = \frac{18}{24} = \frac{3}{4}$$

“3 to 4”

Multiply by
Reciprocal

Lowest
Terms



Rate – Different Units

- A Rate is a Ratio that compares two numbers that have different units of measure (i.e., miles to hours)
- A Rate is **NOT** a “unit-less” number.
- **Example:** Express the rate 250 gal/50 acres in lowest terms.

$$\frac{250 \text{ gal}}{50 \text{ acres}} = \frac{\cancel{50} \cdot 5 \text{ gal}}{\cancel{50} \text{ acre}} = 5 \frac{\text{gal}}{\text{acre}}$$

“5 to 1”

Different
Units

Lowest
Terms

Read a “5 gallons
per acre”.



Rate – An Example

- **Suppose 165 gal of oil flows through a feeder pipe in 15 min. Find the flow rate in gallons per hour.**