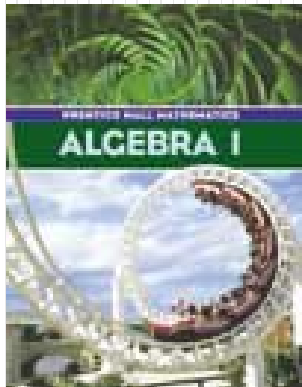




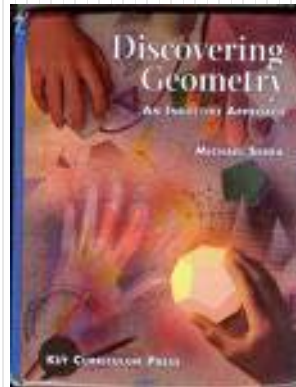
Mr. Northcutt's Math Classes Class Presentation



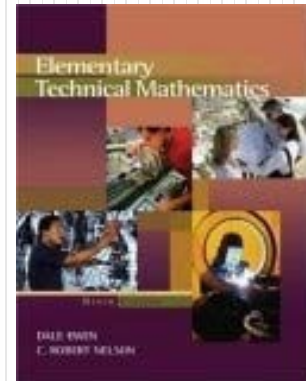
December 15, 2008 (68)



Math 1



Math 2



Applied Math



Math 1 – Daily Summary

- **Announcements**

- Begin **POLYNOMIALS** Tomorrow!!!
 - Could you think of a better Christmas present?
- **Quiz: Sections 9-1 and 9-2 on Friday**
- Origami on Monday and Tuesday next week

- **Class Objectives**

- Test on Sections 8-1 thru 8-5 (Exponents)
- HW Check after Test Completed

- **Assignment**

- NO HW



Math 2 – Daily Summary

- **Announcements**

- Great job on quiz last week!
- **TEST on Chapter 6 on Friday**
- Origami on Monday and Tuesday next week

- **Class Objectives**

- Properties of (Triangle & Trapezoid) Midsegments

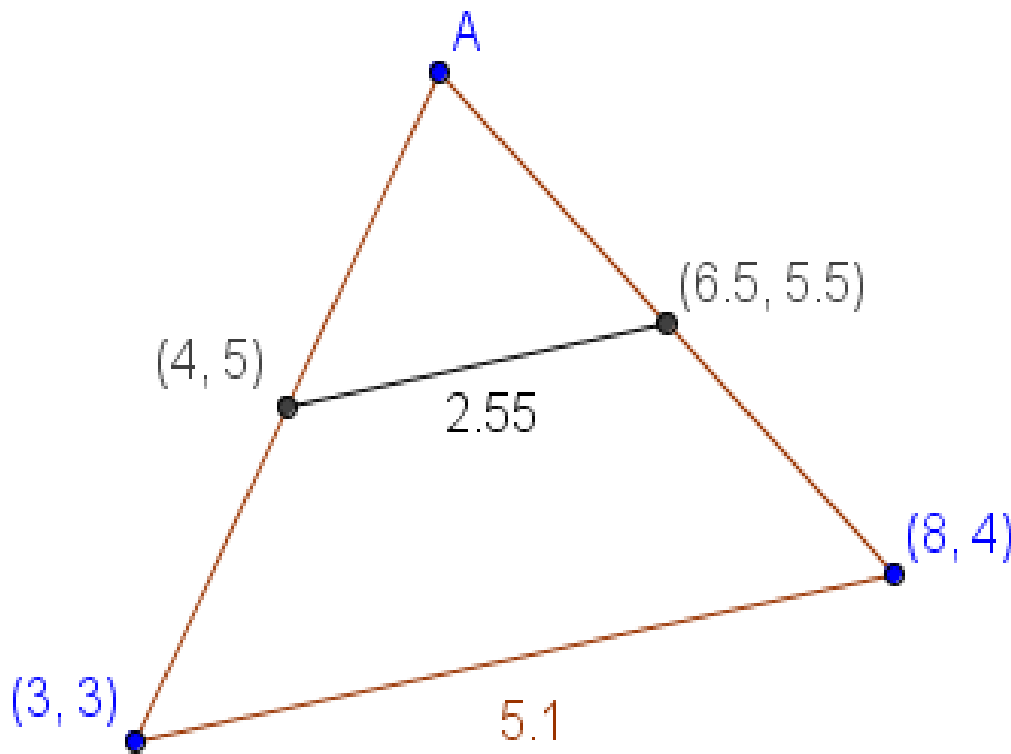
- **Assignment**

- **Lesson 6.4: 1-10, 17**

Properties of Triangle Midsegments



- A Midsegment of a Triangle is a segment connecting the midpoints of two sides of the triangle.



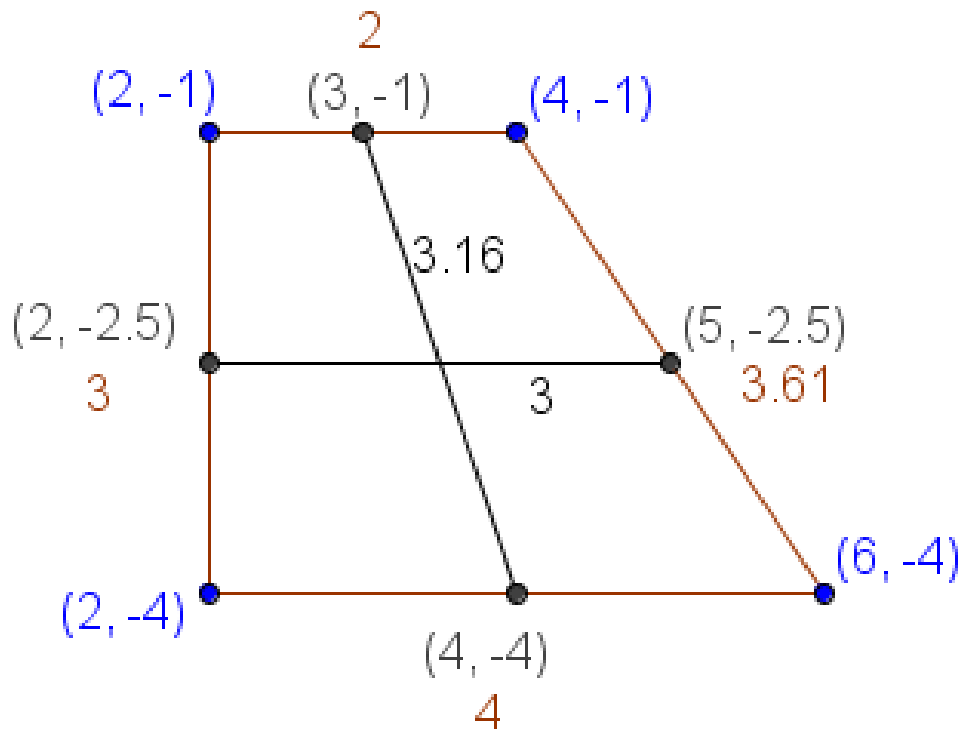
Properties (?):

- 1.
- 2.

Properties of Trapezoid Midsegments



- A Midsegment of a Trapezoid is a segment connecting the midpoints of two opposite sides of the triangle.



Properties (?):

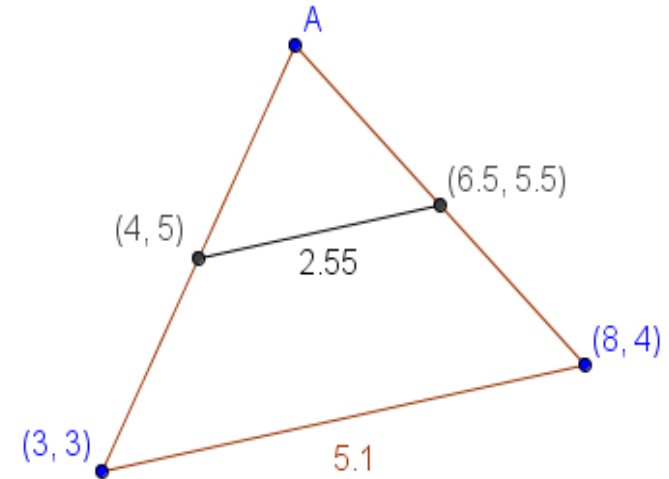
- 1.
- 2.



Midsegment Conjectures

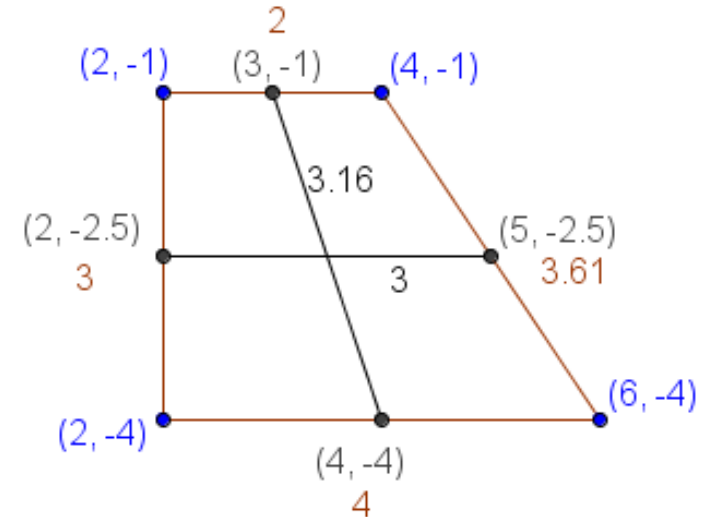
- **Triangle Midsegment Conjecture**

- A midsegment of a triangle is parallel to the third side and $\frac{1}{2}$ the length of the third side.



- **Trapezoid Midsegment Conjecture**

- The midsegment of a trapezoid is parallel to the bases and is equal in length to the average of the length of the bases.





Applied Math – Daily Summary

- **Announcements**

- **Test: Chapter 7 – Ratio & Proportion Tomorrow**
 - **Sample Test on Website**
- **Wednesday: Project – Using Scale (Pick a Project)**

- **Class Objectives**

- Review of Ratio & Proportion
- “Ratio/Proportion” Project Discussion

- **Assignment**

- Sample Test (due before class tomorrow)



Review of Ratio & Proportion

- **Ratio**

- Comparison of two numbers by division

$$\frac{3}{4} \quad 3:4$$

- **Rate**

- A ratio where the two number have different units.
- *Unit Rate*: Denominator is 1.

$$\frac{3\text{miles}}{\text{hours}} \quad \frac{50\text{lbs}}{\text{in}^2}$$

- **Proportion**

- An equation which states that two ratios are equal.
- Can solve by *Cross-Multiplication*.

$$\frac{x+1}{5} = \frac{x-1}{4}$$
$$4x + 4 = 5x - 5$$
$$x = 9$$



Direct Variation – Speed, Scale...

- When two quantities change in a way such that their ratio is constant they are said to **VARY DIRECTLY**.

- **Example:**

- You drive 35 miles in 1 hour
- You drive 70 miles in 2 hours
- You drive 105 miles in 3 hours

- ...

$$\frac{\text{miles}}{\text{hours}} = \frac{35}{1} = \frac{70}{2} = \frac{105}{3} = 35$$

- In this example the **CONSTANT OF VARIATION** is the **Speed/Rate** you are driving.



Inverse Variation (Pulleys, Gears...)

- When two quantities change in a way such that their PRODUCT is constant they are said to VARY INVERSELY.

$$x_1 y_1 = x_2 y_2 = x_3 y_3 = \text{constant}$$

or

$$\frac{y_1}{y_2} = \frac{x_2}{x_1}$$

Inverse Ratios



“Ratio/Proportion” Projects

- **The project should focus on using Ratio/Proportion in an applied situation. Some options might be:**
 - Scale Drawings (Art, Design)
 - Drawing/graph paper with colored pencils
 - Blueprint (Architecture)
 - For example, measure section of school and create blueprint
 - Scale Models (Design & Engineering)
 - Maybe use toothpicks or spaghetti with glue
 - Technical Drawings (Design & Engineering)
 - Using Maps & Models (i.e., area of US States from map)
- **Any project must specify how ratio/proportion is being used, and it should be used correctly throughout.**