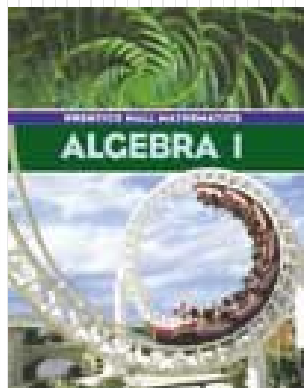
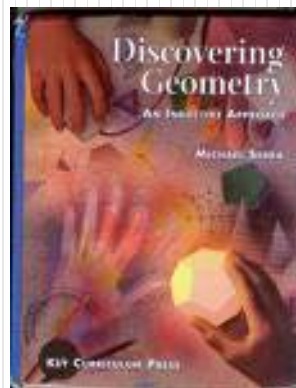


Mr. Northcutt's Math Classes Class Presentation

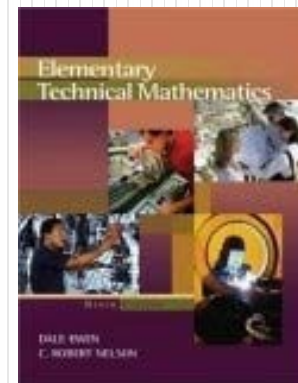
November 10, 2008 (47)



Math 1



Math 2



Applied Math



Math 1 – Daily Summary

- **Announcements**

- 2nd Quarter Begins Today.
- **Quiz on Sections 4-1 thru 4-3 on Thursday.**

- **Class Objectives**

- Using Proportion: Similar Figures

- **Assignment**

- **Lesson 4-2: 2-28 EVEN**



HW Solutions: 4-1 (Part #2)

32: 0.5

33: $8 \frac{11}{12}$

34: $7 \frac{1}{3}$

35: $-3 \frac{1}{2}$

36: 8

37: 165

38: 12.5

40: 14.60

42: 504

44: 20 mi/h

46: 12 mi/h

48: 1 mi/h

50: 50.4 min

51: 10.5 mm

52: 246.4 ft/s

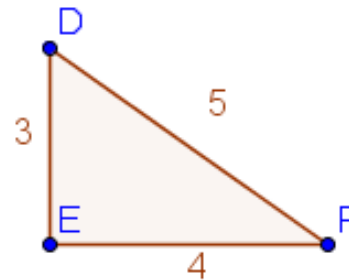
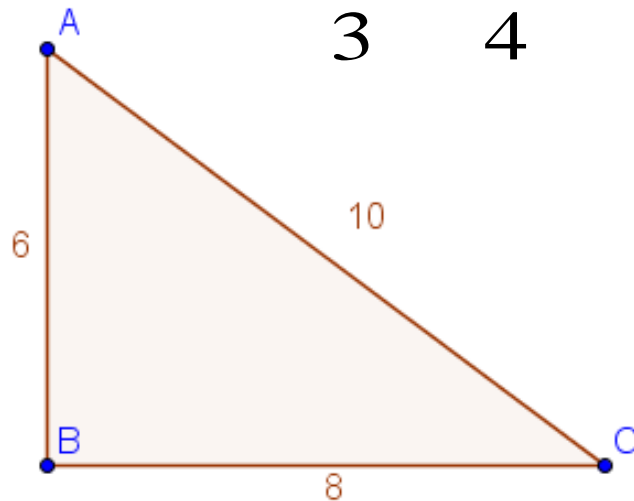


Ratios & Similar Figures

- **Similar Figures have the same shape but not necessarily the same size.**

$$\frac{DE}{AB} = \frac{EF}{BC} = \frac{FD}{CA}$$

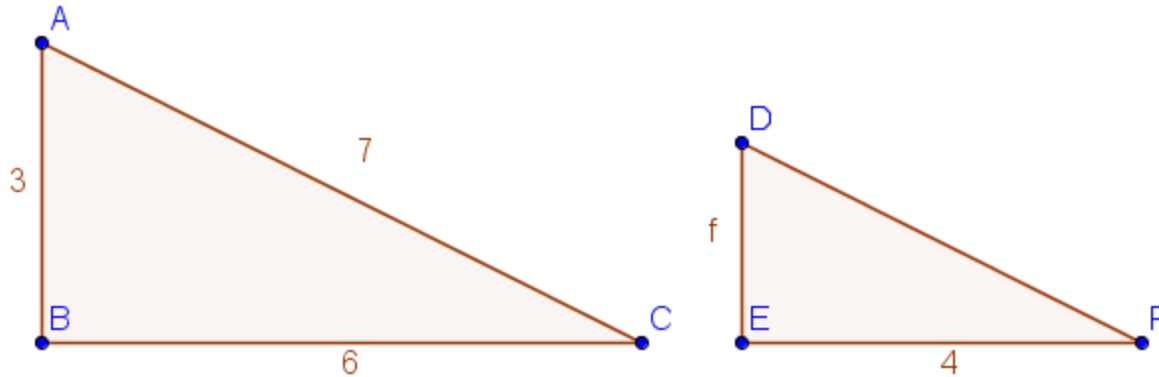
$$\frac{6}{3} = \frac{8}{4} = \frac{10}{5}$$





Ratios & Similar Figures

- In the figure below $\triangle ABC \cong \triangle DEF$. Find DE.



$$\frac{AB}{DE} = \frac{ED}{DF}$$

$$\frac{3}{6} = \frac{f}{5}$$

$$6f = 15$$

$$f = 2.5$$



Ratios & Maps

- The scale of a map is 1 in:17.5 miles. Find the actual distance corresponding to 8.3 in.

$$\frac{1in}{17.5m} = \frac{8.3in}{x}$$

$$x = 17.5m \cdot \left(\frac{8.3in}{1in} \right)$$

$$x = 145.25m$$



Math 2 – Daily Summary

- **Announcements**

- 2nd Quarter Begins Today.
- **Quiz on Lessons 5.1 thru 5.3 tomorrow. Will include:**
 - Equations of Lines (Slope-Intercept Form)
 - Systems of Equations

- **Class Objectives**

- Triangle Congruence Conjectures:
 - Side-Side-Side
 - Side-Angle-Side
 - Side-Side-Angle

- **Assignment**

- **Lesson 5.4: 1-12, 20, 21**



HW Solutions – 5.3

1: Yes

2: No

3: No

4: Yes

5: Yes

6: Yes

7: a,b,c

8: c,b,a

9: b,a,c

10: a,c,b

11: a,b,c

12: v,z,y,w,x

13: Angles are wrong.

14: a=52,b=38,c=110,d=35

15: a=90,b=68,c=112,
d=112,e=68,f=56,g=124

16: 135

17: 72

18: 72

23: ABE

24: FNK



Conjectures (from Friday)

- **Triangle Inequality Conjecture**

- The sum of the lengths of any two sides of a triangle is *greater than* the length of the third side.

- **Side-Angle Inequality Conjecture**

- In a triangle, *the longest side is opposite the angle with greatest measure, and the shortest side is opposite the angle with least measure.*

- **Triangle Exterior Angle Conjecture**

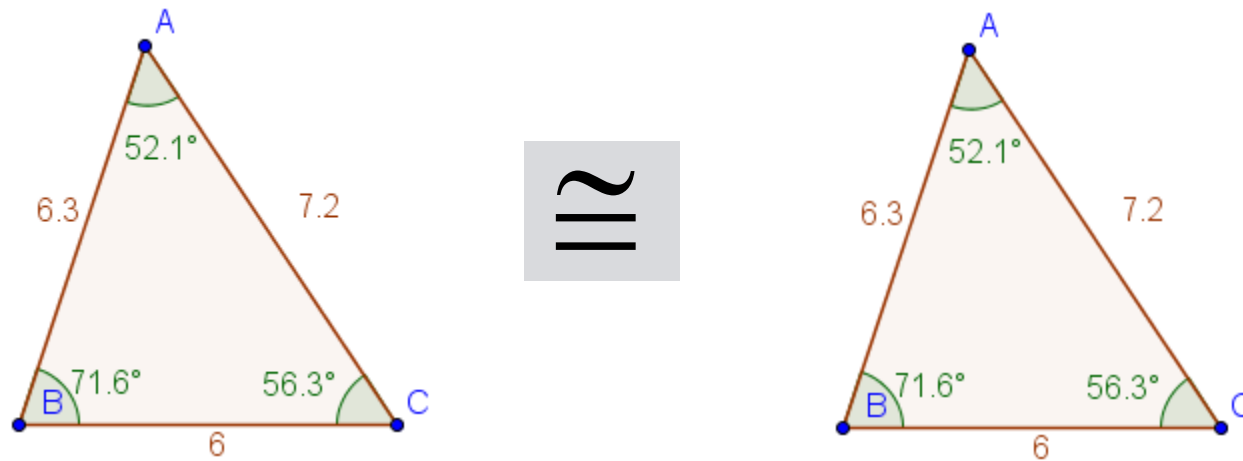
- The measure of an exterior angle of a triangle is *equal to the sum of the measures of the remote interior angles.*



Definition

- **Congruent Triangles**

- Two triangles are congruent if the three sides and three angles of one triangle are congruent to the three sides and three angles of another triangle.



- **Is it possible to determine if two triangles are congruent without having to compare all 6 parts of a triangle (3 sides and 3 angles)?**



Minimum Number of Measures?

- It is easy to show that 2 measures are NOT enough.
 - Identify some counterexamples...
- There are 6 combinations of 3 measures to look at:
 - Side-Side-Side (**SSS**)
 - Side-Side-Angle (**SSA**)
 - Side-Angle-Side (**SAS**)
 - Angle-Side-Angle (**ASA**)
 - Side-Angle-Angle (**SAA**)
 - Angle-Angle-Angle (**AAA**)

Look at
these today!

[Go to Geogebra→](#)



Triangle Congruence Conjectures

- **Side-Side-Side**

- If the three sides of one triangle are congruent to the three sides of another triangle, then the triangles are congruent.

- **Side-Angle-Side**

- If two sides and an angle between them in one triangle are congruent to two sides and the angle between them in another triangle, then the triangles are congruent.

- **Side-Side-Angle**

- If two sides and an angle that is not the angle between the two sides in one triangle are congruent to the corresponding two sides and angle, then the two triangles are NOT necessarily congruent.

Applied Math – Daily Summary



- **Announcements**

- 2nd Quarter begins today.
- **Quiz on Sections 6.1 thru 6.6 (Equations) on Thursday**

- **Class Objectives**

- Translating English to Algebra

- **Assignment**

- **Lesson 6.5: 1-25 ODD**



Key Words with Their Translation

- **Common words/phrases that translate to math:**

+	-	x	÷	=
plus	minus	times	divide	equal or equals
increased by	decreased by	product	quotient	is or are
added to	subtract	multiply by	divided by	is equal to
more than	less than	double or twice		result is
sum of	difference	triple or thrice		
	subtract from			



English Analogy

- **Translating English into Algebra is critical in applied mathematics (this is how it works in the “real world”).**
- **Suggested Steps:**
 1. Identify the Variable(s) – “Subject” in English
 2. Identify the Operation(s) – “Verb” in English
 3. Combine Variables & Operations into an Expression – “Sentence” in English



Example

- **One number is four times another, and their sum is twenty.**

$n =$ a number

$4n =$ four times a number (the 2nd number)

$n + 4n =$ the sum of the two numbers

$$n + 4n = 20$$



Example

- **If twelve is added to the product of a number and twelve, the sum is 72.**

$n =$ a number

$12n =$ the product of a number and 12

$12n + 12 = 12$ added to the product of a number and 12

$$12n + 12 = 72$$