LESSON 10

Geometry

DECEMBER 3, 2015

Geometry

Entry Task

Review homework problems 1 & 2 (pg. 53).

- Discuss solutions with your neighbors
- Make changes to your proofs to improve as needed.

Important Note

Be sure to write down each proof clearly as possible.

Writing is practice.

Quiz

Topic: Reading and writing proofs

Skills: Critiquing arguments and justifying reasoning of others.

Date: Wednesday, December 9

Joke:

What kind of trees do math teachers climb?

Geome-trees!

What do you call more than one “L”?

Pair–a–lell

DECEMBER 4, 2015

Geometry

Entry Task

Song Time!!!

https://www.youtube.com/watch?v=8eD3wODCIh8

Colin Dodds - Geometric Transformations (Math Song)

Class Proof

Pg. 54 – Opening Exercise Problem

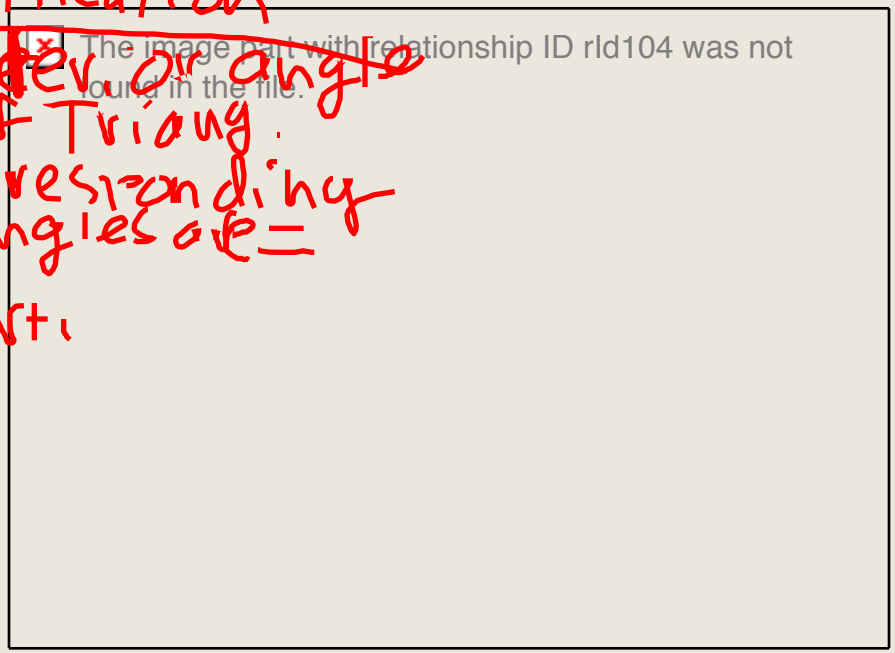
- Read what you are supposed to prove.
- Extend lines to create an intersection point.
- Label the angle.

Pg. 55 Proof

Below are the statements, create a reason & justification for each step.

Given $\overline{AB} \parallel \overline{CD}$, prove $z = x + y$

Statement	Justification
$z = v + w$	Exter. ∠ of Triang.
$x = v$	Corresponding Angles are =
$y = w$	Vert.
$z = x + y$	



Reasoning

Pg. 55; same question, different proof.

- What do you notice about *v* and *x*?
- About *w* and *y*?
- How does this help you

Proof (Version 2)

Given $\overline{AB} \parallel \overline{CD}$, prove $z = x + y$

$x = v$

$y = w$

$z = v + w$ Angle Addition

$z = x + y$

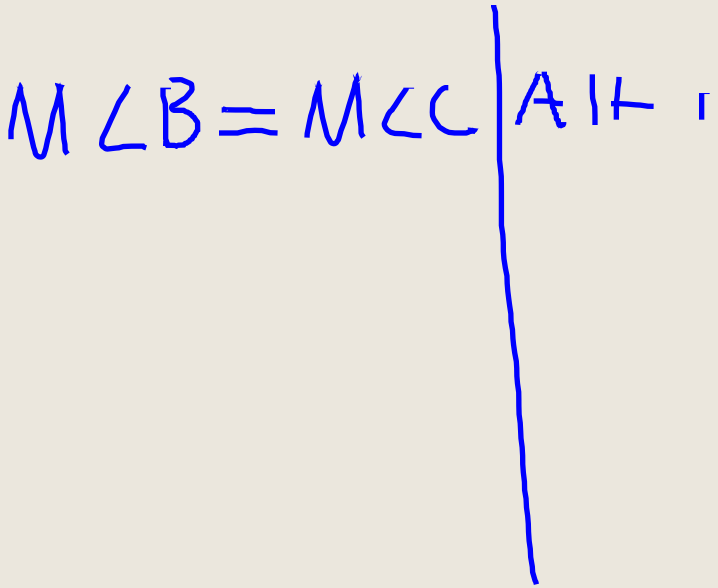
DECEMBER 7, 2015

Geometry

Entry Task

Problem 1 on pg. 56 has been done before (last unit).

Can you complete the task without looking back?

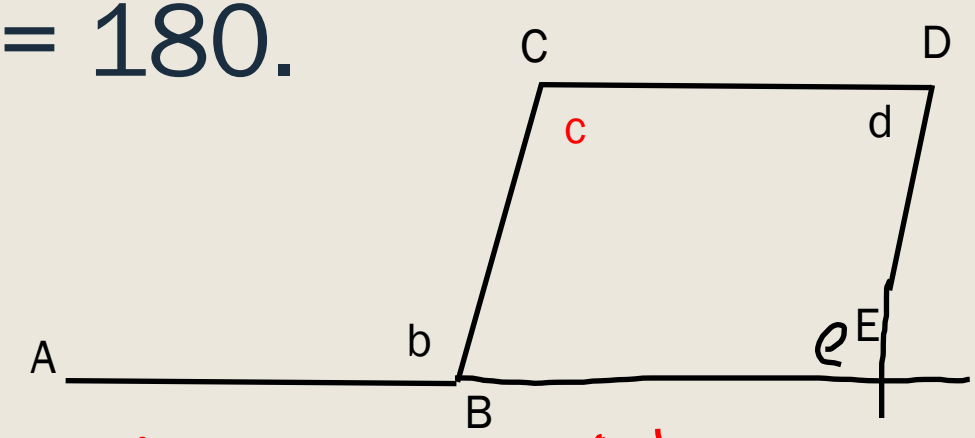


13

Proof pg. 57 #2

Prove that b + d = 180.

- Add angle c.
- Try this proof on your own for 5 minutes.



b = c

Alternate Interior

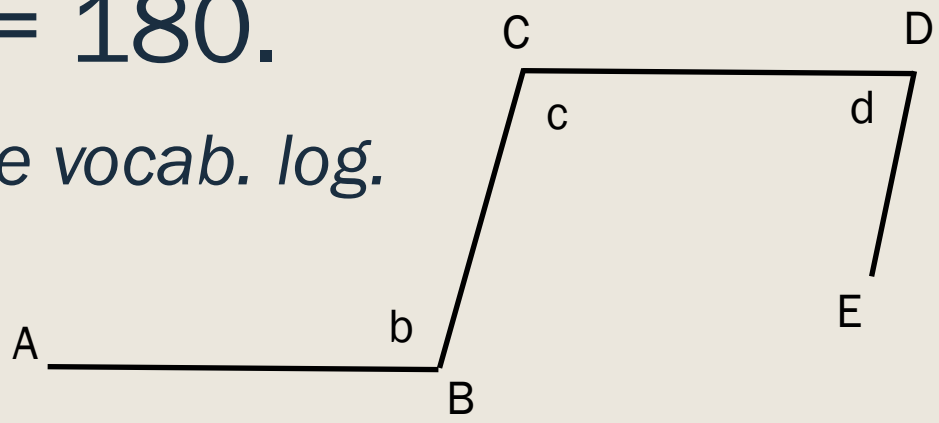
c + d = 180°

same side interior

Proof pg. 57 #2

Prove that b + d = 180.

You provide reasons. Use vocab. log.



$$\angle b = \angle c$$

$$\angle c = \angle d$$

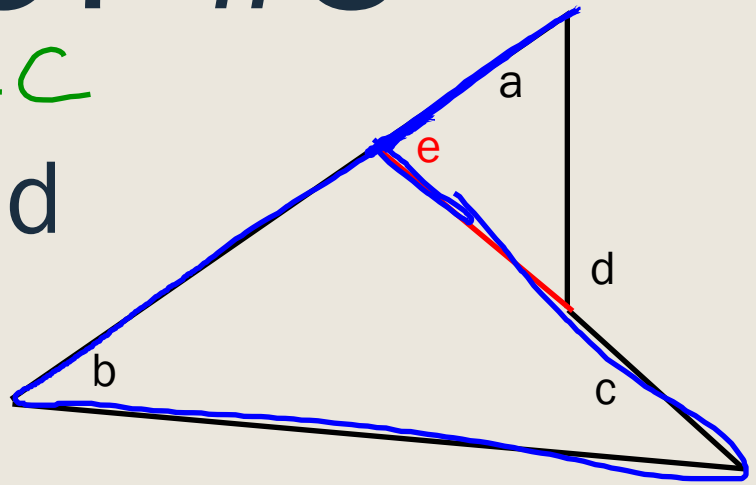
$$\angle c + \angle d = 180°$$

$$\angle b + \angle d = 180°$$

Proof pg. 57 #3

Prove $d = a + b + c$

Extend line $\overline{CD}$ and add angle e.



Find at least two exterior angles of triangles that use angle e.

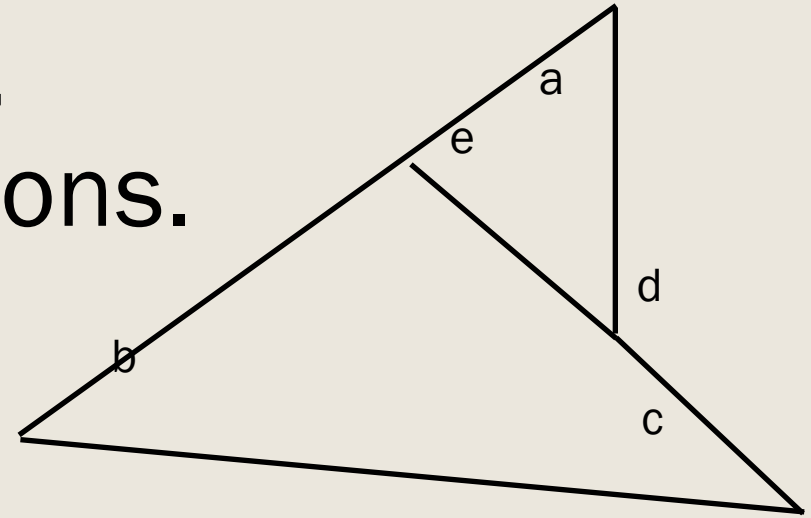
Exterior Angle of a Triangle

$d = a + e$

$e = b + c$

Proof pg. 57 #3

I'll provide the proof,
you provide the reasons.



$$e = b + c$$

$$d = a + e$$

$$\therefore d = a + b + c$$

Homework

Work through Lesson 10 Problem Set (pg. 58).

Hints for problems:

1. Extend line $\overline{DE}$
2. Cut angle E with an Auxiliary line.

DECEMBER 8, 2015

Geometry

Entry Task

Select up to 3 people in the room to begin your PRACTICE QUIZ.

When your group is selected, get a PRACTICE QUIZ from the resource table (under the clock).

When you're done...

Review the homework problems on pg. 58.

Timer to complete practice quiz (10 min)

Hints for problems:

1. Extend line $\overline{DE}$
2. Cut angle E with an Auxiliary line.

Review Quiz

Use the rubric to evaluate your score on the group quiz.

Definitions Section

4. Incorrect definition, missing drawing or no additional information

7. Sloppy definition, mostly correct drawing. Bad or misleading additional information.

10. Clear and accurate definition, precise drawing and multiple properties.

Proof Section

4. Unclear or choppy sequence to answer.

7. Mostly clear, some justifications incomplete or wrong.

10. Clear organization, proper sequence, clear and accurate statements and justifications present.

Correcting Section

4. Identifies none of the incorrect statements/justification.

7. Fails to identifies one incorrect claim or does not improve the claim well.

10. Perfectly identifies all of incorrect claims in the proof. Makes reasonable improvements to improve the argument.

Review Homework

Pg. 58 (Lesson 10 Problem Set)

#2

Hints for problems:

1. Extend line $\overline{DE}$
2. Cut angle E with an Auxiliary line.

More Practice

Lesson 12 Opening Exercise (pg. 64) includes a proof that you may *prove* helpful in preparing for the quiz.

DECEMBER 9, 2015

Geometry

Entry Task

Select up to 3 people in the room to begin your REAL QUIZ.

Put your backpacks on the floor.

Cell phones away.

Vocabulary Logs Ready!

Quiz

Your group has to the end of the period.

NO CELL PHONES

Vocabulary Log okay.

Closed Notes

When you are done

Begin Lesson 12 Opening Exercises (pg. 64)

Provide reasons for each angle measurement.

DECEMBER 9, 2015

Geometry – Period 6

Entry Task

Open your Engage NY workbook to page 58.

Complete the proofs #1 and 2:

HINTS:

1. Extend line $\overline{DE}$
2. Cut angle E with an Auxiliary line

Review ET

Focus on correctness, clarity and precise language.

Self Check

Suppose a figure does not have ANY parallel lines, can we use:

- Corresponding Angles
- Same Side Interior Angles
- Alternate Interior Angles

In our proof?

NO, NO, NO!!!!!!!!

Turn to page 64

Begin lesson 12 opening exercise.

Use your understanding of angle relationships to find all of the labeled angles.