Please find your new seats and create a name tag (with your preferred name) with the materials at your table by folding the paper in half.

Then, find 12 people and fill out your clock (if you put someone at 1 o'clock, they should have you at 1 o'clock as well).

Jan 26-12:19 PM

Today is Day 1 of Unit 8:
Segments of Triangles

Unit 8 Assessment:

Quiz 6.1-6.4 --> Wednesday 1/29 Thursday 1/30

Today's I Can Statement:

ST-1: I can identify the different segments in a triangle.

Jan 26-12:18 PM

I. Midsegments

Definition: A_____ is a
segment that _____ of
_____ of the triangle.

*Every triangle has _____ midsegments.

Jan 26-12:19 PM

Use the materials in the middle of your table

1.) Draw a triangle ABC and cut it out, labeling the vertices with A, B, and C.

2.) Fold A to C and pinch at the midpoint. Do NOT fold all the way. Label the midpoint D.

3.) Fold B to C and pinch the midpoint again. Do NOT fold all the way. Label the midpoint E.

4.) Fold C down to the opposite side and create a crease. Draw a line connecting D and E, creating the midsegment.

5.) Using the ruler find the length of DE and AB. Is there a relationship(s)? Compare your findings with your table.

Jan 26-12:15 PM

Midsegment Theorem

The _____ connecting the midpoints of two sides of a triangle is _____ to the third side and is _____ as long as that side.

$\overline{DE} \parallel \overline{AC}$ and $DE = \frac{1}{2} AC$

Jan 7-1:27 PM

I. Midsegments   Example

If $DE = 4x + 5$ and $GJ = 3x + 25$, what is DE?
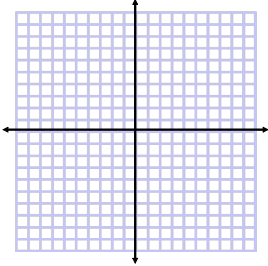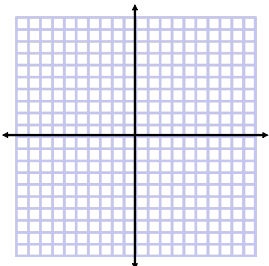

Jan 26-12:15 PM

I. Midsegments

Verifying the Midsegment Theorem

Plot A(4,1), B(1,4) and C(-2,1)

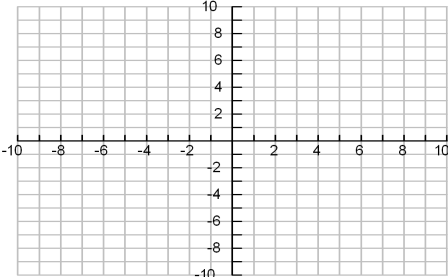Given D is the midpoint of BC and E is the midpoint of AB.

1. Find the endpoints of DE
   (midpoint formula)

2. Verify that DE = 1/2 AC
   (distance formula)

3. Verify that DE ‖ AC
   (slopes)

Jan 26-12:15 PM

I. Midsegments

Verifying the Midsegment Theorem

Plot A(-3,2), B(1,4) and C(5,2)

Given D is the midpoint of BC and E is the midpoint of AB.

1. Find the endpoints of DE
   (midpoint formula)

2. Verify that DE = 1/2 AC
   (distance formula)

3. Verify that DE ‖ AC
   (slopes)

Jan 26-12:16 PM

I. Midsegments

Example

You are given the midpoints of the sides of a triangle. Find the coordinates of the vertices of the triangle.   L(3,2) M(1,3) N(1,1)

Jan 26-12:20 PM

I. Midsegments

Let's write what we just did:

1.

2. _____ of one midsegment then _____ off of the third point.

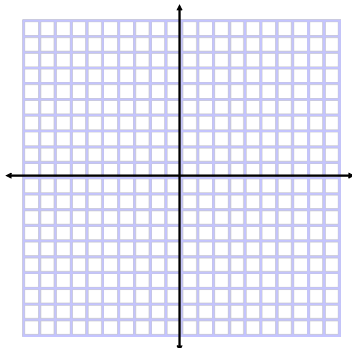3. _____ of a second midsegment then _____ off of the third point.

Let's do another one....(next slide)

Jan 26-12:20 PM

I. Midsegments

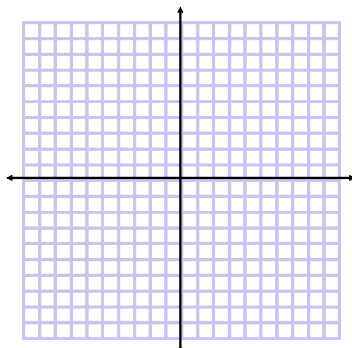Given Midpoints
A (-2,1)
B (1,5)
C (2,-2)

Find the Vertices:

Jan 26-12:20 PM

I. Midsegments

Given Midpoints
A (3, 6)
B (1, -2)
C (6, 2)

Find the Vertices:

Jan 26-12:20 PM

II. Special Segment Definitions
Perpendicular Bisector

Examples   Nonexamples

DEF: A _____, _____, _____, or _____ that is perpendicular to a segment at its midpoint

Jan 26-12:21 PM

II. Special Segment Definitions
Angle Bisector

Examples   Nonexamples

Def: a _____ that divides an angle into _____ congruent adjacent angles.

Feb 12-12:20 PM

II. Special Segment Definitions
Median

Examples   Nonexamples

Def: a _____ whose _____ are a _____ of the triangle and the midpoint of the _____ side.

Feb 12-12:21 PM

II. Special Segment Definitions
Altitude

Examples   Nonexamples

Def: the _____ segment from a _____ to the _____ side or to the _____ that contains the opposite side.

*An altitude can lie _____, _____, or _____ the triangle. (aka height)

Feb 12-12:21 PM

II. Special Segment Definitions   Example

Review of Definitions. If we don't know these we cannot do the rest of the chapter!

1.

2.

3.

4.

Feb 12-12:21 PM

II. Special Segment Definitions   Example

Let's Practice some drawings! Don't forget your markings. Otherwise, how do we know what you are intending?

1. Draw a perpendicular bisector of $\overline{AB}$

Feb 12-12:22 PM

II. Special Segment Definitions   *Example*

2. Draw a median from B to $\overline{AC}$

Feb 12-12:22 PM

II. Special Segment Definitions   *Example*

3. Draw an Angle Bisector from angle C

Feb 12-12:22 PM

II. Special Segment Definitions   *Example*
Final ones. Draw an Altitude

4.

From∠C to AB

5.

From∠A to BC

Feb 12-12:22 PM

Tonight's Assignment:

 Triangles Worksheet + Pg. 333 #3-17

Looking Ahead:
Quiz 6.1-6.4 --> Wednesday 1/29 Thursday 1/30

Today's I Can Statements:

ST-1: I can identify the different segments
in a triangle.

Jan 26-12:27 PM

Jan 9-12:30 PM