



Do Now

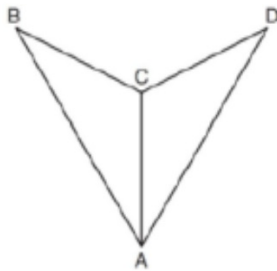
Take out your homework and pick up your guided notes

Calculators



1.

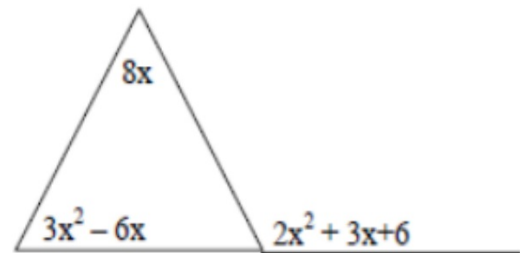
As shown in the diagram below, \overline{AC} bisects $\angle BAD$ and $\angle B \cong \angle D$.



Which method could be used to prove $\triangle ABC \cong \triangle ADC$?

- 1) SSS
- 2) AAA
- 3) SAS
- 4) AAS

2. Solve for x.



Quiz Review!



Quiz

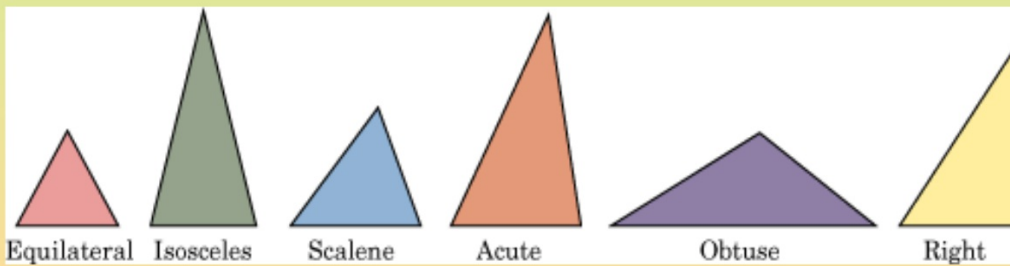
- You have **25** minutes. Turn it in once you're finished.
- You must **show all work**.
- **NO** talking, cell phones, etc. (**this will result an automatic zero**).



Check In! - Search and define the terms in the box below. Then, draw an example for each term. Make sure to display each triangles' characteristics in your drawing using tick marks and/or angle marks. **(8 minutes)**

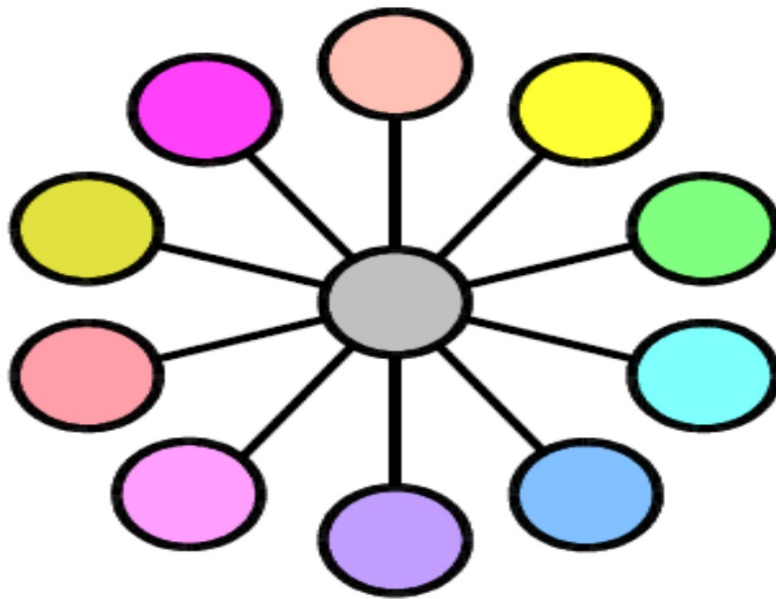
Triangle Classification

Equilateral
Isosceles
Scalene
Acute
Obtuse
Right



Check In!

Can you put the digits 1 to 11 in the circles so that every line has the same total?

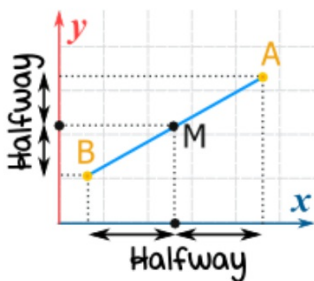


Midpoint and Midsegments

The midpoint is the point on a line segment that divides the segment into two equal parts

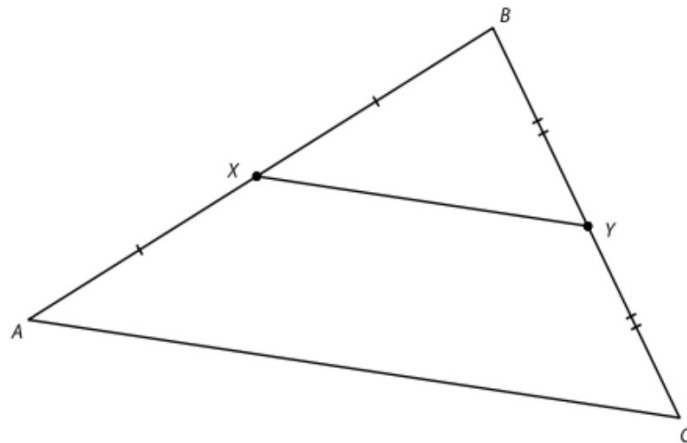
- A **midsegment** of a triangle is a line segment that joins the **midpoints** of two sides of a triangle.

Midpoint



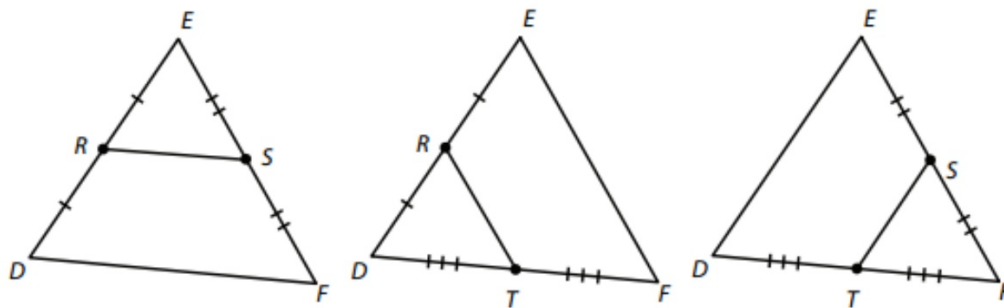
$$M = \left(\frac{x_A + x_B}{2}, \frac{y_A + y_B}{2} \right)$$

Midsegment



Midsegment

Every triangle has _____ midsegments



Key Concepts, *continued*

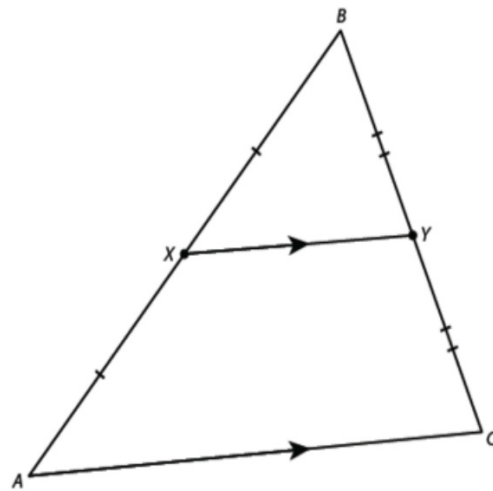
Theorem

Triangle Midsegment Theorem

A midsegment of a triangle is parallel to the third side and is half as long.

$$\overline{AC} \parallel \overline{XY}$$

$$XY = \frac{1}{2}AC$$

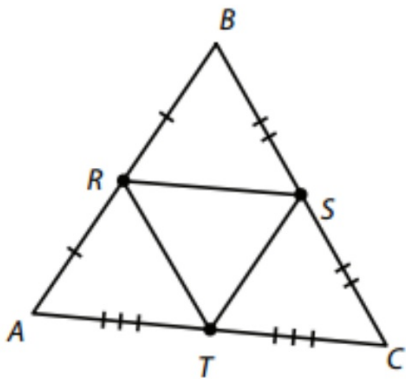


Midsegment triangle

When all _____ midsegments are connected a midsegment _____ is formed

The triangle is similar (\sim) to the original triangle.

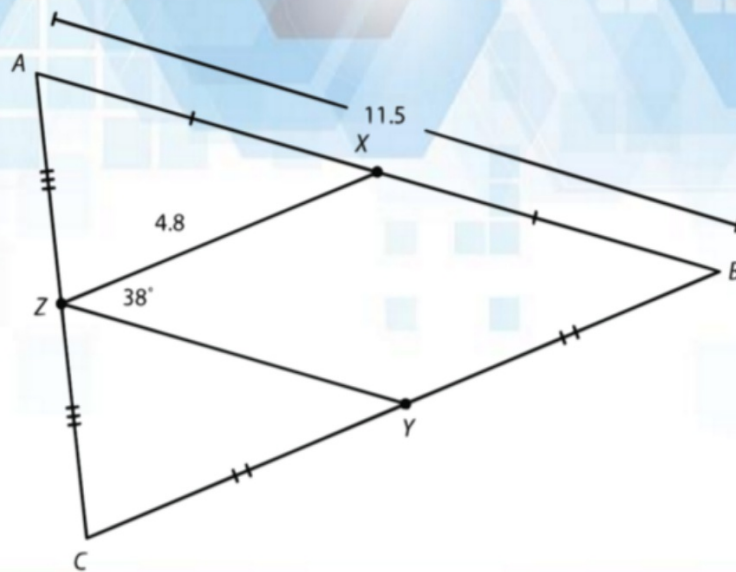
*Similar: triangles who have the same angles and their sides have the same ratio (we will be learning about this in depth in a few days)

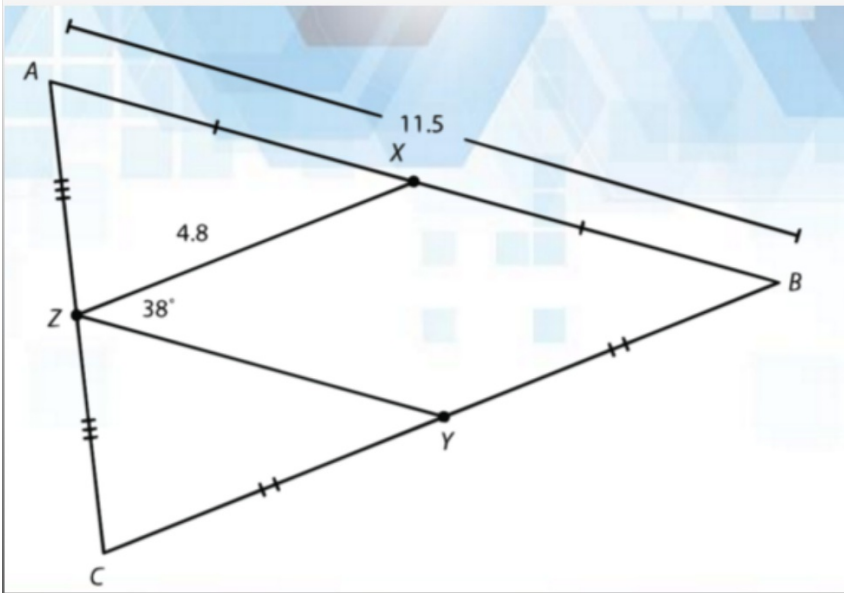


Guided Practice

Example 1

Find the lengths of BC and YZ and the measure of $\angle AXZ$.





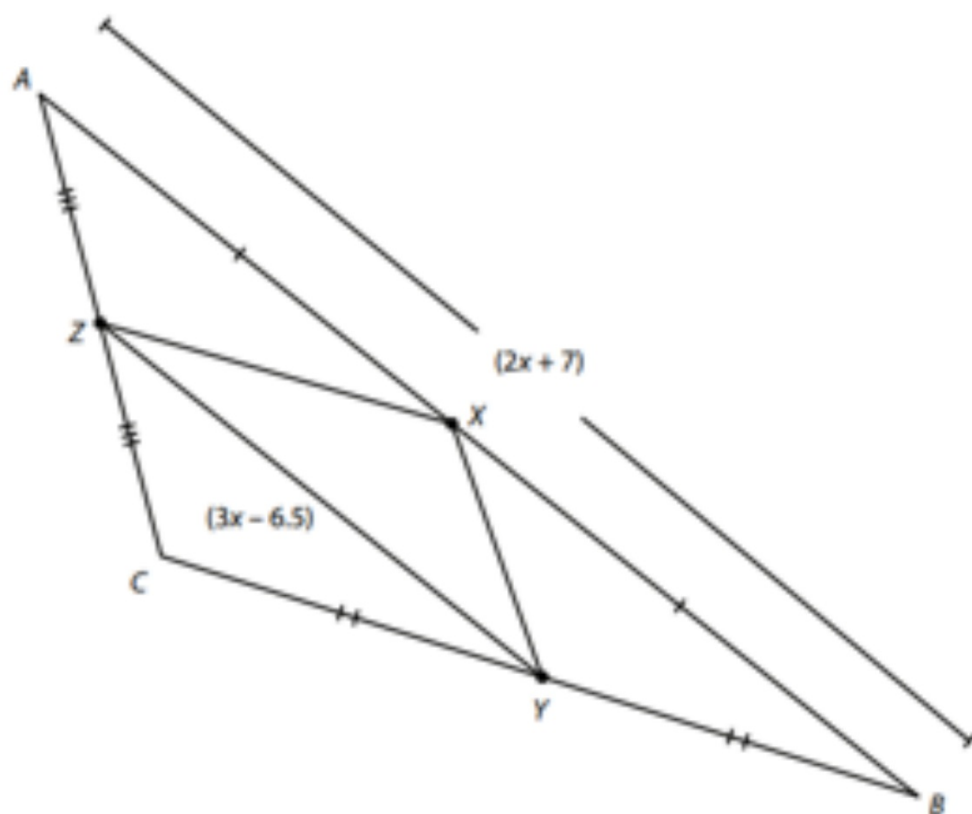
BC?

YZ?

Angle AXZ?

Ex 2.

If $AB = 2x + 7$ and $YZ = 3x - 6.5$, what is the length of AB ?



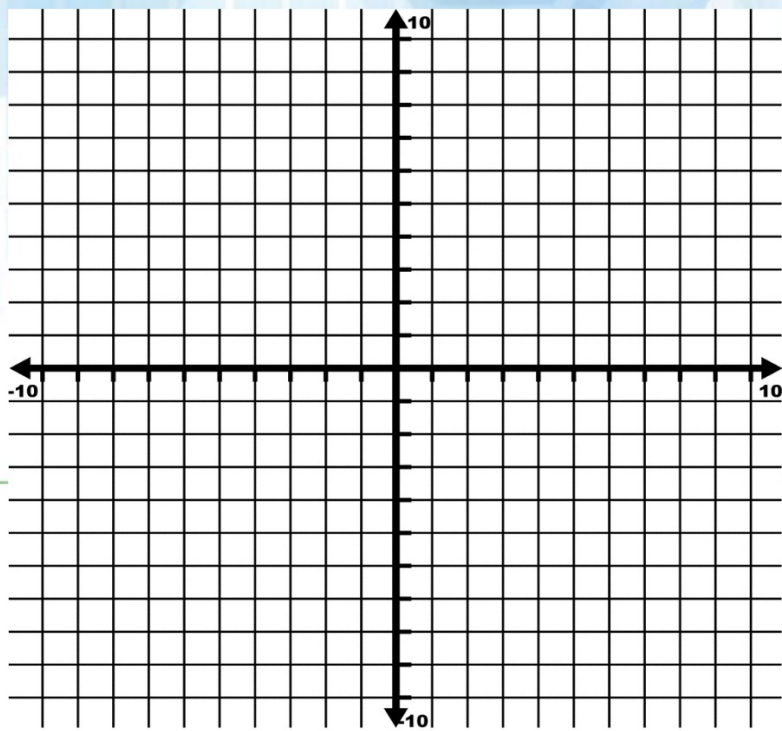
Guided Practice

Example 3

The midpoints of a triangle are $X(-2, 5)$, $Y(3, 1)$, and $Z(4, 8)$. Find the coordinates of the vertices of the triangle.

Example 3

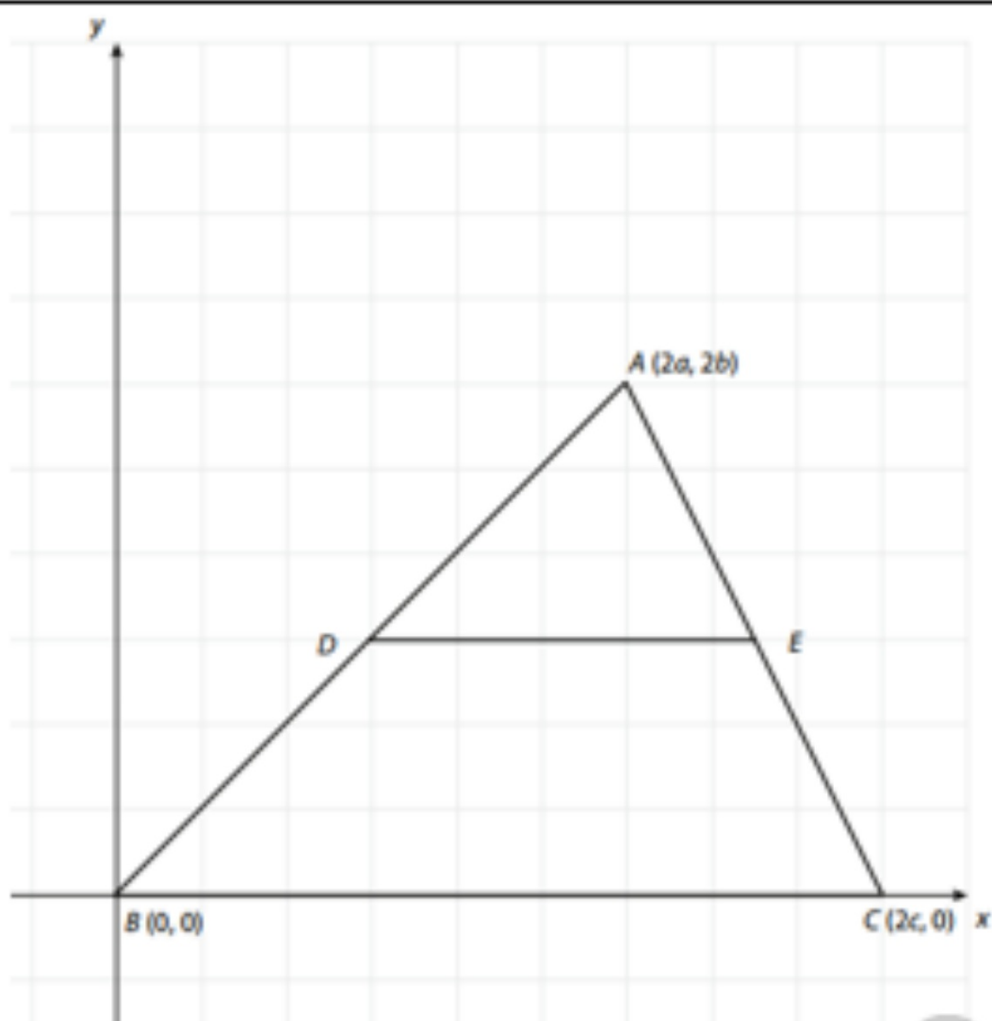
The midpoints of a triangle are $X(-2, 5)$, $Y(3, 1)$, and $Z(4, 8)$. Find the coordinates of the vertices of the triangle.



Ex 4.

**(NEED
GRAPH
PAPER)**

Write a coordinate proof of the Triangle Mid-segment Theorem using the graph below.



Independent Practice!

- **You work with a partner. Turn in your individual paper.**
- **Turn it in if you finish before the class ends, whatever you don't finish will be HW.**
- **Once you're finished, start working on your extra credit found on Google Classroom.**

I like to stay as busy as possible to take my mind off how much I hate the things I do to stay busy.




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LOTTERY THURSDAY!!!

Please Lord, let me prove to you
that winning the lottery
won't change me.



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