

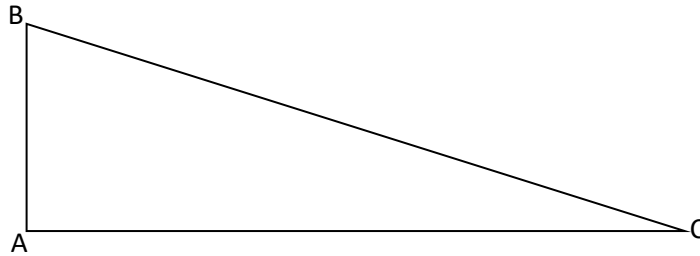
Secondary 2 Honors – Triangles Unit

Day 1 – In Class Notes - The Midsegment Triangle

What is a segment?

What does the prefix mid mean?

- Using a ruler measure the length of \overline{AB} . Using a ruler measure the length of \overline{BC} . Please round to the nearest tenth of a centimeter.



- Now find the midpoint of \overline{AB} and label it m and the midpoint of \overline{BC} and label it n . Make sure to mark them on the actual side of the triangle.
- Connect points m and n . Hooray!!!! You just found your first midsegment! The midsegment is the line segment that connects the midpoints of 2 sides of a triangle. You just found midsegment \overline{mn} which is opposite of side \overline{AC} .

- To the nearest tenth of a centimeter find the measure of \overline{AC} and \overline{mn} .

$$\overline{AC} = \underline{\hspace{2cm}} \text{ cm} \qquad \overline{mn} = \underline{\hspace{2cm}} \text{ cm}$$

- Find the scale factor from $\overline{AC} \rightarrow \overline{mn}$. Is this an enlargement or a reduction?

- How many midsegments does $\triangle ABC$ have? _____ Find the other midsegments of the triangle. Label the midpoint for \overline{AC} as p .

- To the nearest tenth of a centimeter find the measure of \overline{BC} and \overline{mp} .

$$\overline{BC} = \underline{\hspace{2cm}} \text{ cm} \qquad \overline{mp} = \underline{\hspace{2cm}} \text{ cm}$$

- Find the scale factor from $\overline{BC} \rightarrow \overline{mp}$. Is this an enlargement or a reduction?

- To the nearest tenth of a centimeter find the measure of \overline{AB} and \overline{np} .

$$\overline{AB} = \underline{\hspace{2cm}} \text{ cm} \qquad \overline{np} = \underline{\hspace{2cm}} \text{ cm}$$

- Find the scale factor from $\overline{AB} \rightarrow \overline{np}$. Is this an enlargement or a reduction?

- Are these 2 triangles similar? _____ Why? _____

Name _____ Period _____

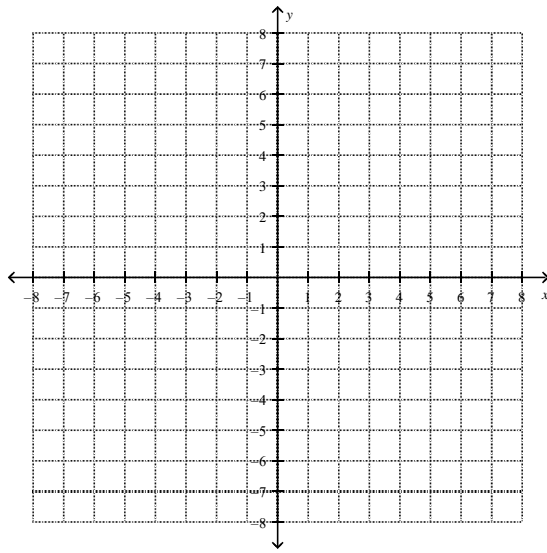
On the last page you found $\triangle mnp$ by finding the midsegments of $\triangle ABC$. $\triangle mnp$ is known as a **MIDSEGMENT TRIANGLE**.

What should the scale factor be ALWAYS when you are comparing a triangle to its midsegment triangle? _____

Explain why.

Look again at triangles ABC and mnp . How do the slopes of the sides and the midsegments compare?

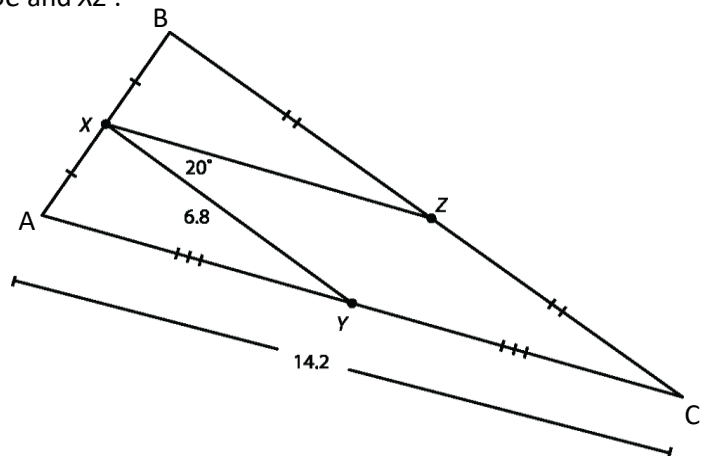
1. a. Plot the following coordinates on the graph below. X (-7,-3) Y (5,2) Z (-1,4)



- b. Find the midpoints of \overline{XY} , \overline{YZ} , \overline{XZ} . List the coordinates of each midpoint.

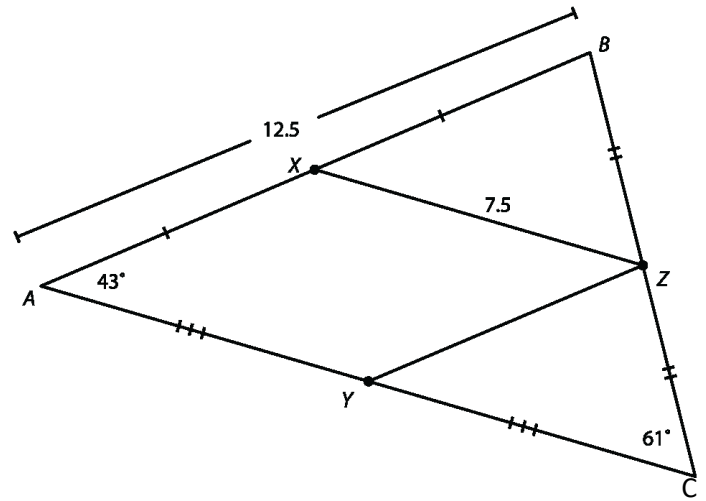
- c. Go back to your graph and mark each midpoint on it and connect them to create a midsegment triangle.

2. Given that xz and xy are midsegments, find the lengths of BC and XZ .

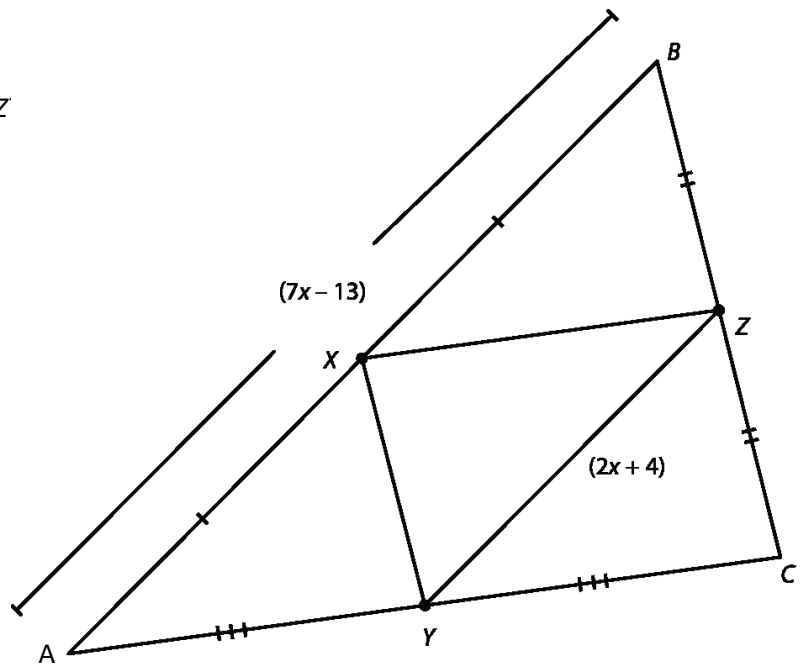


Name _____ Period _____

3. Given that xz and yz are midsegments, find the lengths of AC and YZ .



4. If $AB = 7x - 13$ and $YZ = 2x + 4$, what is the length of YZ ?



5. If $BC = 5x + 0.75$ and $XY = 3x - 0.25$, what is the length of BC ?

