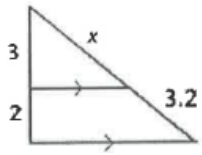
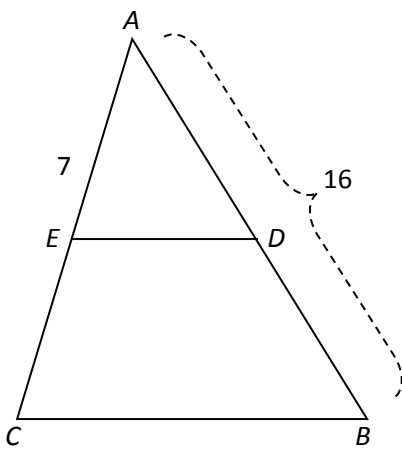


Aim: What are midsegments?

Do Now: Find the length of the missing side x .



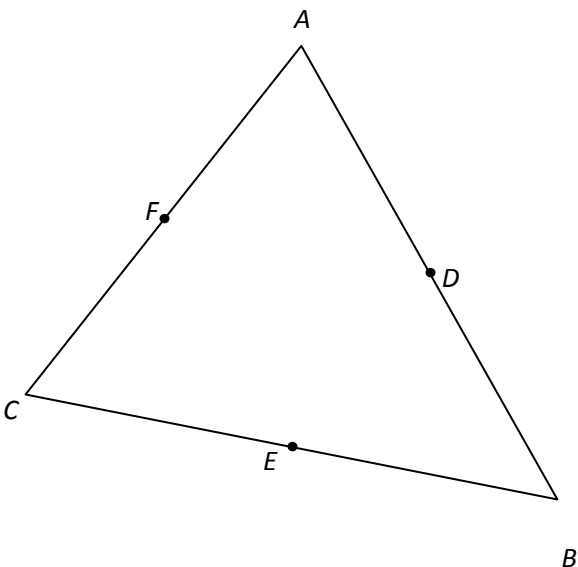
1) What would happen if \overline{ED} bisected sides \overline{AC} and \overline{AB} ? Can you find the values below?



- a) $m\overline{AD} =$ _____
- b) $m\overline{DB} =$ _____
- c) $AC =$ _____
- d) $EC =$ _____
- e) Pick your own value for ED .
- f) Based on your pick, what is $m\overline{CB}$?

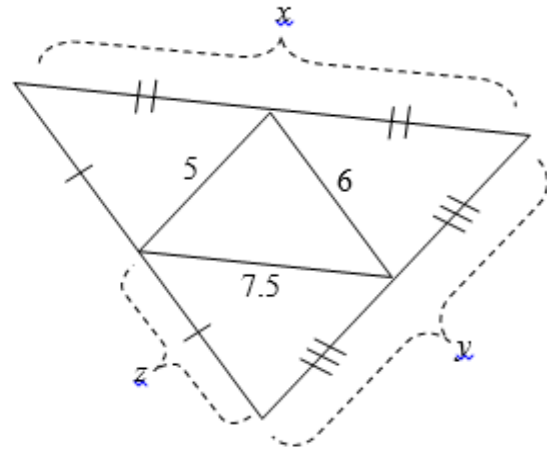
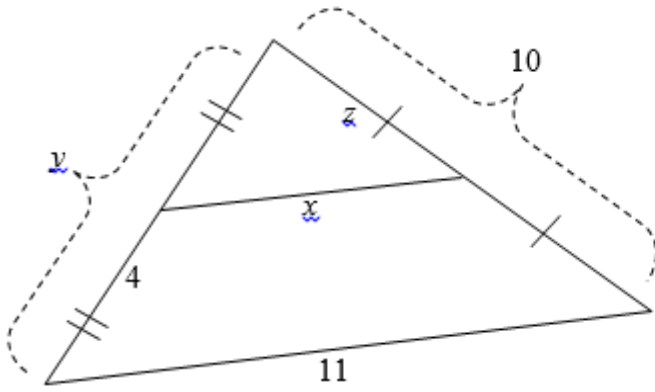
2) We call \overline{ED} a **midsegment** of $\triangle ABC$. How many midsegments does a triangle have?

3) $\triangle ABC$ is shown with the midpoints of its sides labeled. Sketch the triangle's midsegments.



- 4) Let's pick some values for some segments, and fill in the rest!
- 5) What is the ratio of the perimeter of $\triangle ABC$ to the perimeter of $\triangle DEF$?

6. Find the measure of each variable:



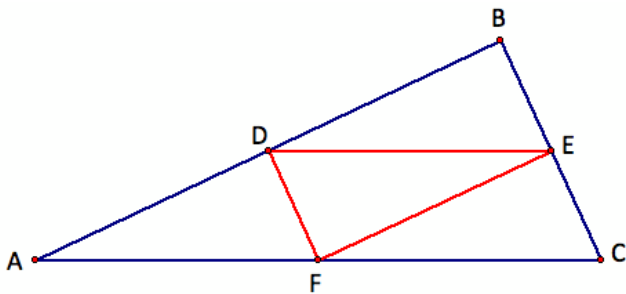
A **midsegment of a triangle** has 3 properties:

A] It joins the midpoints of 2 sides in a triangle.

B] It is _____ of the side that it doesn't intersect.

C] It is also _____ to the side that it doesn't intersect.

When 3 midsegments are drawn it forms the _____ triangle

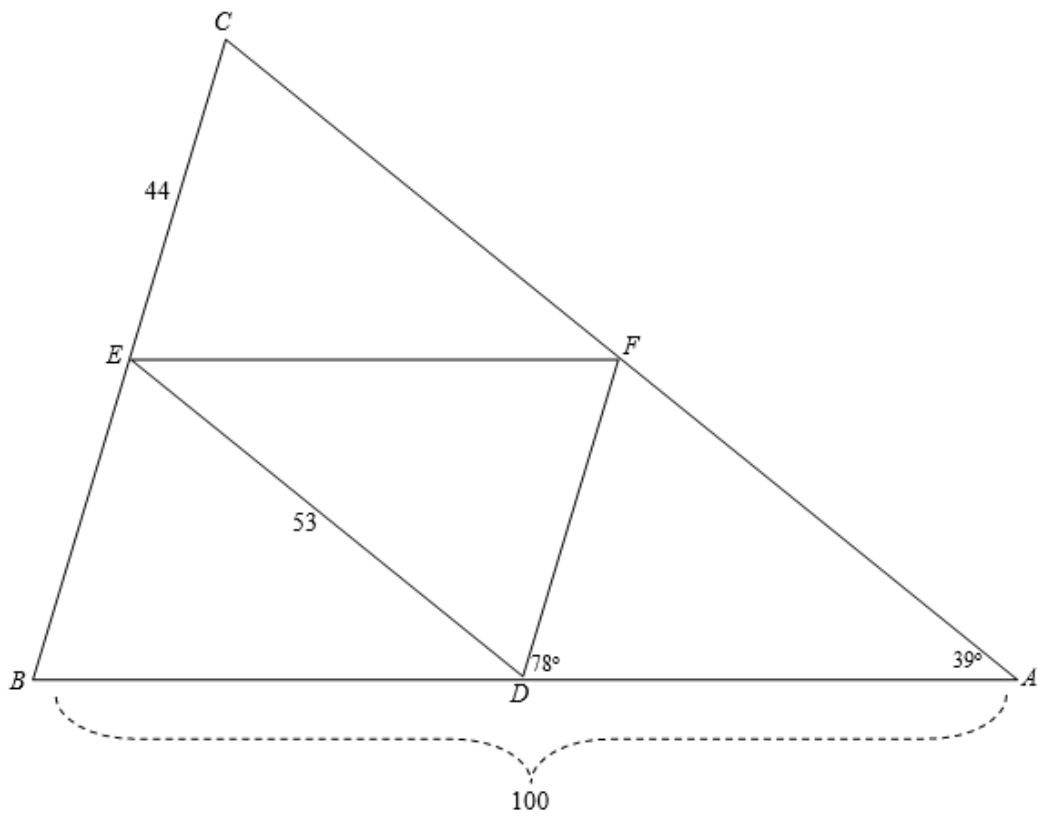


Name the medial triangle: _____

What is the perimeter of the medial triangle compared to the larger triangle?

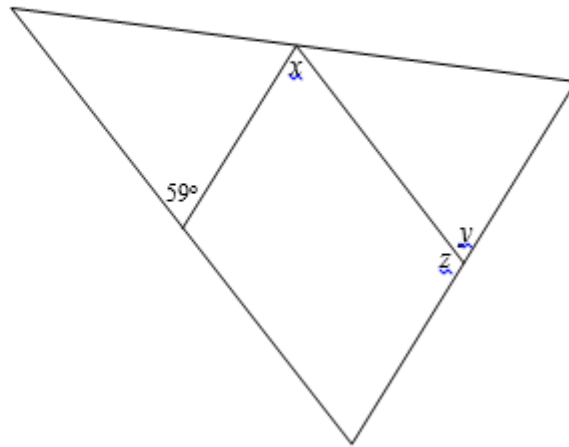
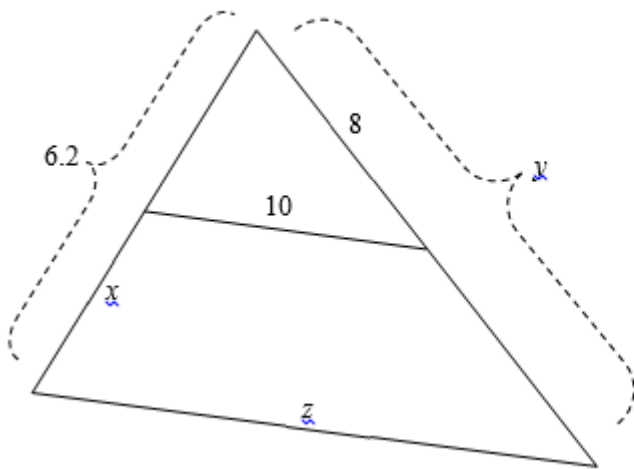
What is the area of the medial triangle compared to the larger triangle?

In the diagram, D , E , and F represent the midpoints of \overline{AB} , \overline{BC} , and \overline{AC} respectively. Fill in as many segment and angle measures as you can.



Practice Problems! Yes.

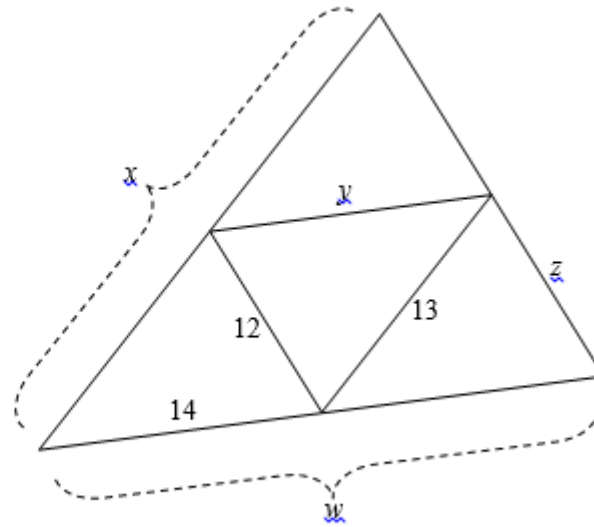
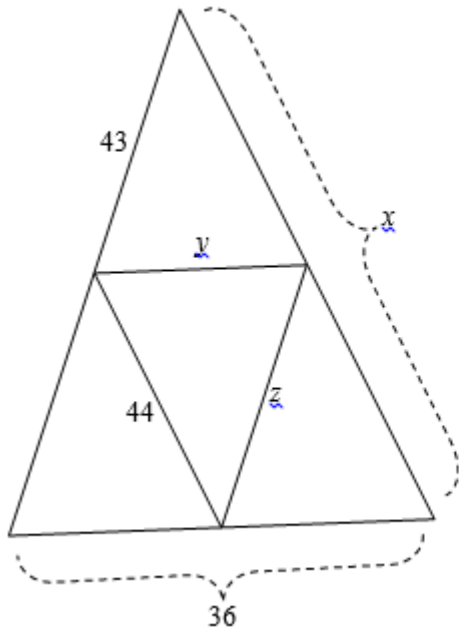
1. Each diagram shows a triangle and its **midsegments**. Find the indicated values.



$x =$

$y =$

$z =$



2. If the perimeter of a triangle is 80 units, what is the perimeter of its medial triangle?

3. If the area of a triangle is 100 square units, what is the area of its medial triangle?

4. If the perimeter of a triangle's medial triangle is 30 units, what is the perimeter of the triangle?