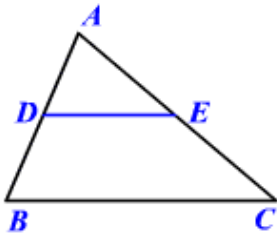# Answer on Question #43099, Math, Geometry

Task: explain how and show examples of how to find midsegments of triangles
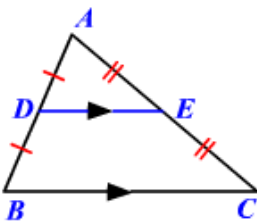
Answer:

A midsegment of a triangle is a segment that connects the midpoints of two sides of a triangle.

In the figure *D* is the midpoint of $\overline{AB}$ and *E* is the midpoint of $\overline{AC}$.
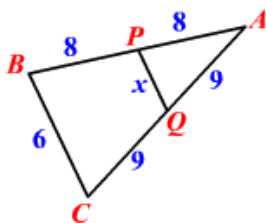
So, $\overline{DE}$ is a midsegment.

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

If *AD* = *DB* and *AE* = *EC*, then $\overline{DE} \parallel \overline{BC}$ and $DE = \frac{1}{2} BC.$

Example :

Find the value of *x*.

Here *P* is the midpoint of *AB*, and *Q* is the midpoint of *BC*. So, $\overline{PQ}$ is a midsegment.

Therefore by the Triangle Midsegment Theorem, $PQ = \frac{1}{2} BC$.

$$x = \frac{1}{2} \cdot 6$$

$= 3$ .The value of *x* is 3.