

Lab - Midsegment (of a triangle) Theorem

Definition: A midsegment is a line segment that joins the midpoint of two line segments.

Tools: Pencil, graph paper, straight edge, ruler, protractor.

1. On a coordinate plane, plot **one** of the following triangles (not both!):

a) Either acute triangle $A(-4, -2)$ $B(0, 6)$ $C(6, 3)$

or

b) obtuse triangle $A(-6, -4)$ $B(2, -4)$ $C(8, 10)$

2. Find the midpoint of line segment BA and label that point D.
 3. Find the midpoint of line segment BC and label that point E.
 4. Draw a line joining points D and E. This is called the midsegment of BA and BC.
 5. Using your ruler, measure the length of midsegment DE.
 6. Now measure the length of line segment AC (the BASE of the triangle)
 7. What do you notice about the length of the midsegment compared to the length of the base?
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8. Now using your protractor, measure angle BDE and angle BAC. What do you notice about the measures of those two angles?

9. Based on a converse property you learned about corresponding angles, what else can you say about the relationship between the midsegment of a triangle and the base of that triangle?

Write the following theorems in your notebooks!:

1. The midsegment of a triangle is (fill in the blank) _____ to the base.
2. The length of a midsegment of a triangle is equal to (fill in the blank) _____ the length of the base.