

Geometry Chapter 6 Review Concurrent points of a Triangle , Midsegment, Triangle Inequ...

Lesson 045 | Geometry | Triangle midsegments and centers • Triangles, congruence and inequality

<https://www.youtube.com/watch?v=UxdsPZVnFcs>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

A triangle median AD has length 36. G is the centroid. Find AG and GD. A midsegment parallel to a side of length 100 is also drawn; find its length.

02

Triangle ABC is congruent to triangle DEF in that order. $AB=4x+6$, $DE=18$, $BC=42$, and angle $C=40^\circ$. Find x , EF, and angle F, naming the justification.

03

A triangle median AD has length 21. G is the centroid. Find AG and GD. A midsegment parallel to a side of length 140 is also drawn; find its length.

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04

An isosceles triangle has equal base angles $(6x + 4)^\circ$ and vertex angle 112° . Find x and classify its angles.

05

A triangle median AD has length 39. G is the centroid. Find AG and GD . A midsegment parallel to a side of length 60 is also drawn; find its length.

06

Triangle ABC is congruent to triangle DEF in that order. $AB=6x+14$, $DE=86$, $BC=24$, and angle $C=50^\circ$. Find x , EF , and angle F , naming the justification.

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01

A triangle median AD has length 36. G is the centroid. Find AG and GD. A midsegment parallel to a side of length 100 is also drawn; find its length.

The centroid divides a median 2:1 from the vertex: $AG=24$, $GD=12$. A midsegment is half its parallel side: 50.

02

Triangle ABC is congruent to triangle DEF in that order. $AB=4x+6$, $DE=18$, $BC=42$, and angle $C=40^\circ$. Find x, EF, and angle F, naming the justification.

Correspondence A / D, B / E, C / F. CPCTC gives $AB=DE$, so $x=3$; $EF=BC=42$; angle $F=\text{angle } C=40^\circ$.

03

A triangle median AD has length 21. G is the centroid. Find AG and GD. A midsegment parallel to a side of length 140 is also drawn; find its length.

The centroid divides a median 2:1 from the vertex: $AG=14$, $GD=7$. A midsegment is half its parallel side: 70.

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04

An isosceles triangle has equal base angles $(6x + 4)^\circ$ and vertex angle 112° . Find x and classify its angles.

Angle sum: $2(6x+4)+(112)=180$, giving $x=5$. Base angles 34° ; vertex angle 112° . Classify as right if an angle is 90° , obtuse if one exceeds 90° , otherwise acute.

05

A triangle median AD has length 39. G is the centroid. Find AG and GD . A midsegment parallel to a side of length 60 is also drawn; find its length.

The centroid divides a median 2:1 from the vertex: $AG=26$, $GD=13$. A midsegment is half its parallel side: 30.

06

Triangle ABC is congruent to triangle DEF in that order. $AB=6x+14$, $DE=86$, $BC=24$, and angle $C=50^\circ$. Find x , EF , and angle F , naming the justification.

Correspondence A / D , B / E , C / F . CPCTC gives $AB=DE$, so $x=12$; $EF=BC=24$; angle $F=$ angle $C=50^\circ$.