

Proving the Midsegment of a Triangle (5.6.3)

May 3rd, 2018

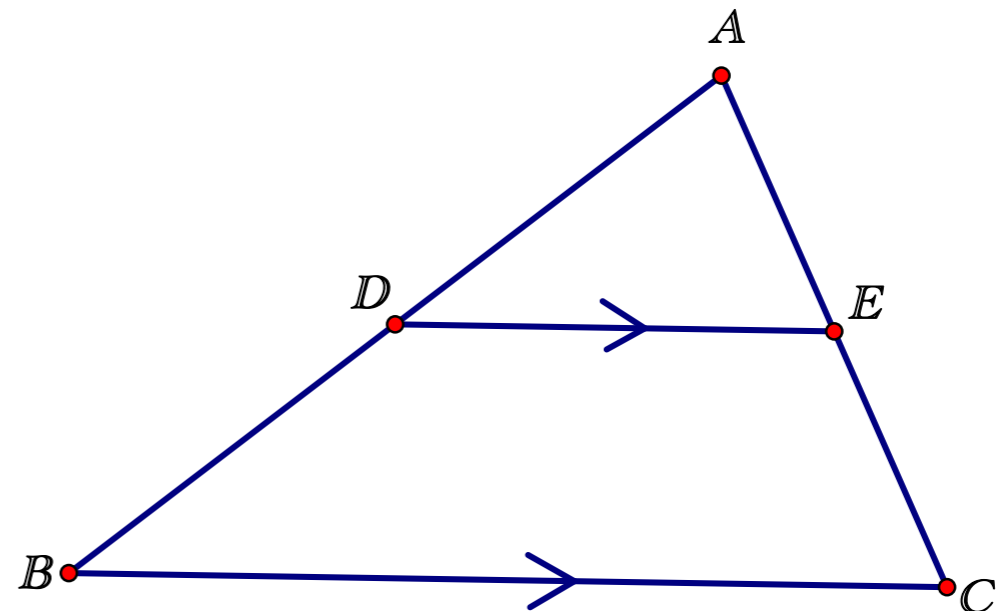
Midsegment of a Triangle

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

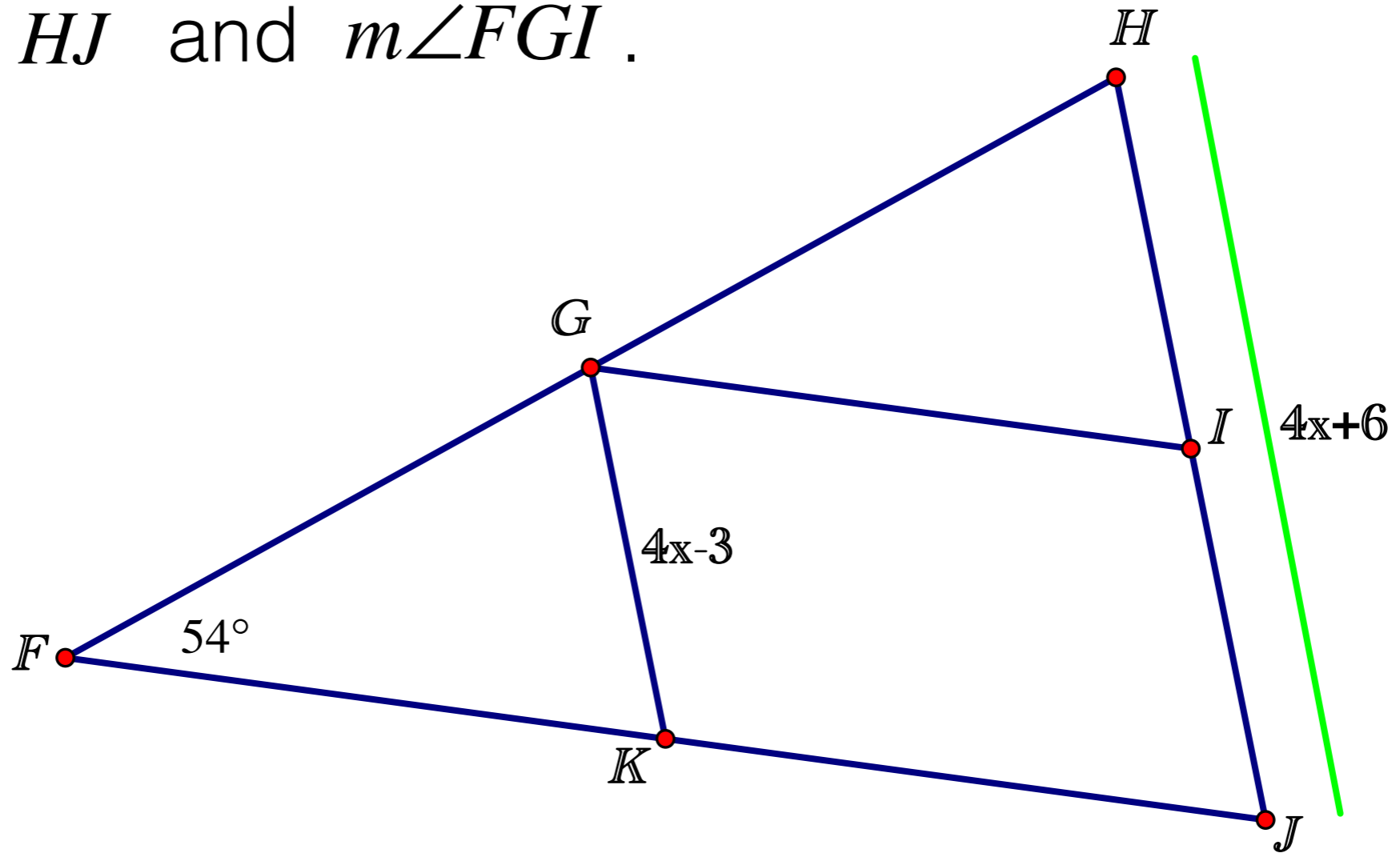
*The midsegment is parallel to the third side of the triangle.

*The midsegment is half the length of the third side of the triangle.

$$\overline{DE} \parallel \overline{BC}$$
$$DE = \frac{1}{2} BC$$



Ex. 1: if $GK = 4x - 3$ and $HJ = 4x + 6$, find the length of \overline{HJ} and $m\angle FGI$.



Ex. 2: The midpoints of a triangle are $A(-2, 3)$, $B(1, -3)$, and $C(2, 2)$. Find the coordinates of the vertices of the triangle.

Ex. 3: The vertices of a triangle are $X(2, 7)$, $Y(5, -1)$, and $Z(-1, -2)$. Find the coordinates of the midsegments of the triangle.