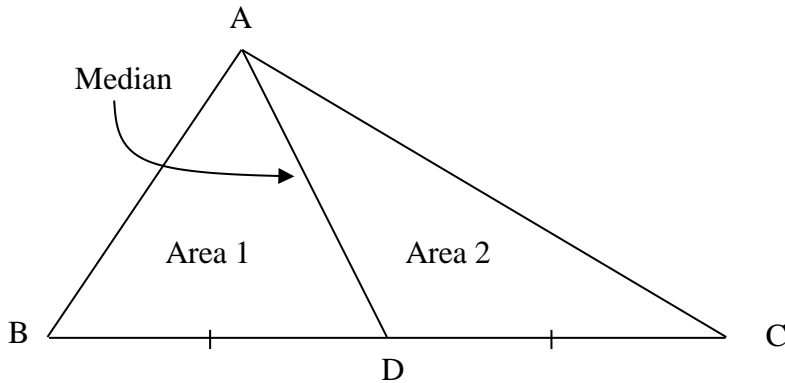


MIDPOINTS AND MEDIANS IN TRIANGLES

Key Concepts:

1. The _____ of a triangle _____ its area.

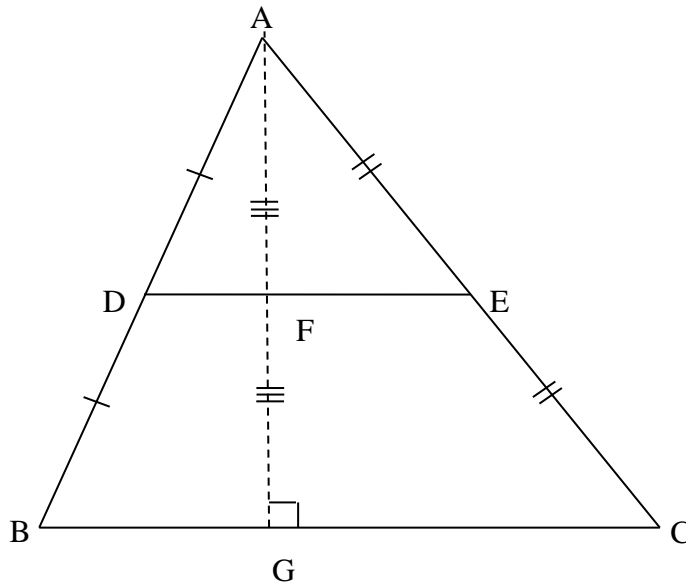


Area 1 = Area ____

Area 1 = ____ Area ABC

Area 2 = ____ Area ABC

2. A line segment joining the midpoints of two sides of a triangle (the mid-segment) is _____ to the third side and is _____ as long
3. The height of a triangle formed by joining the midpoints of two sides of a triangle is _____ the height of the original triangle.



4. The area of the triangle formed by joining the midpoints of two sides of a triangle is _____ the area of the original triangle.

TERMINOLOGY

Midpoint: A point that divides a line segment into two equal segments.

Median: the line segment joining a vertex of a triangle to the midpoint of the opposite side.

Bisect: Divide into two equal parts.

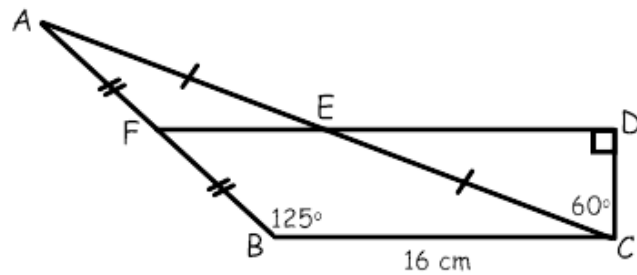
Right Bisector: A line perpendicular to a line segment passing through its midpoint.

** NOTE: Your homework may ask you to prove something is not true by showing a COUNTER – EXAMPLE. This just means draw an example where you show what they are saying is not true.

EXAMPLES:

- Use the diagram of $\triangle ABC$ with mid-segment DE, on previous page.
Given $|BC| = 8 \text{ cm}$, $|AG|=12 \text{ cm}$, determine the area of $\triangle ABC$ and $\triangle ADE$.

- Solve for:
 - angle FAE (provide reasoning)



- Length of EF
- What type of quadrilateral is formed from joining the midpoints of quadrilateral BCEF?

- Calculate the length of the cross-brace PQ in this bridge support.

