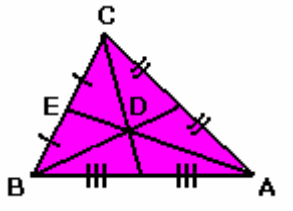
11.3 Key Concepts 2 Properties of Medians, Altitudes, and Angle Bisectors Worked Example

Example: a) Identify the point D formed by the intersection of the medians of the triangle.
b) The measure of AD is 5 units. What is the measure of DE?



Solution:

a) The medians of a triangle meet at the centroid. Point D is the centroid of the triangle ABC.

b) The centroid divides line segment AE into the ratio 2:1. If AD measure 5 units, then DE measures half as much, or 2.5 units.

Practice:

1. Match each type of centre with the line segments that locate its position:

a) centroid	i) altitudes
b) orthocentre	ii) angle bisectors
c) incentre	iii) medians

2. Mr. Suzuki has purchased a triangular area of woods in a camping park. He may clear a circular camping area that touches each of the three sides of the lot. He asks his children how to find the centre of the clearing.

Tomiko says to draw a line from each vertex to the midpoint of the opposite side.

Suki says to draw a line from each vertex that cuts the vertex angle in half.

Akira says to draw a line from each vertex to meet the opposite side at 90°.

Who is correct?

Answers: 1. a) iii b) i c) ii, 2. Suki