

Geometry CC - Unit 3
 Lesson 1: Angle bisectors, Altitudes, and Medians of a Triangle
 M1 L5
Homework: HW Handout 3.1

Vocabulary

- Bisector** - a line or ray that divides an angle into two congruent angles.
- Altitude** - a segment drawn from any vertex of a triangle that is perpendicular to the line on the opposite side.
- Median** - a segment joining any vertex of a triangle to the midpoint of the opposite side.

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Part 1: Angle Bisector: A line or ray that divides an angle into two congruent angles.

1. In isosceles $\triangle ABC$, $\angle BAC$ is the vertex, and $m\angle ABC = 65^\circ$. If angle bisector \overline{AD} is drawn, find $m\angle BAD$.

2. In isosceles $\triangle DEF$, $\angle DEF$ is the vertex, and $m\angle FED = 40^\circ$. If angle bisector \overline{EG} is drawn, find $m\angle EGF$.

$\angle BAD = 25^\circ$

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A) Construct angle bisector \overline{BG} in the triangle below.
 B) In triangle ABC, if $m\angle CAB = 62^\circ$, and $m\angle ACB = 91^\circ$, what is $m\angle ABG$?

$91 + 62 + x = 180$
 $153 + x = 180$
 $\frac{1}{2}(27) = 13.5^\circ$ $x = 27$

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Part 2: Altitude: A segment drawn from any vertex of a triangle that is perpendicular to the line on the opposite side.

4. Sketch altitude \overline{BD} .

5. Sketch altitudes \overline{DG} and \overline{FH} .

6. In the diagram below, construct altitude \overline{AD} .

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Part 3: Median: A segment joining any vertex of a triangle to the midpoint of the opposite side.

7. In the triangle below, sketch median \overline{BD} . Then sketch median \overline{AE} .

8. Construct median \overline{CD} in the triangle below.

(1) find midpoint of \overline{AB} (seg bisector)
 use a dashed line
 (2) Draw median \overline{CD}

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Angle Bisector	Altitude	Median
divides an \angle in half	\perp line drawn from a vertex to the opposite side	line drawn from a vertex to the midpoint of the opposite side

Oct 7-12:15 PM