

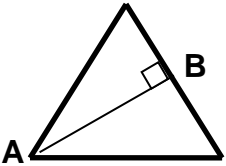
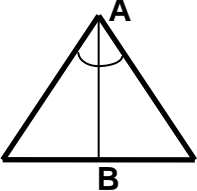
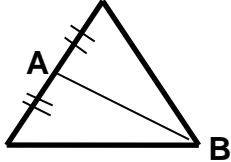
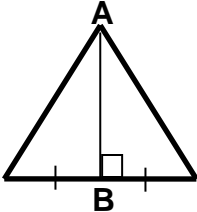
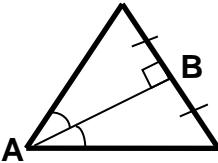
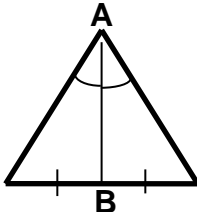
NAME _____ DATE _____ PER. _____

SPECIAL SEGMENTS IN TRIANGLES CONTINUED

Based on the markings below, tell whether \overline{AB} in each triangle is a:

- A. Angle Bisector B. Median C. Altitude D. Perpendicular Bisector

List all that apply.

<p>_____ 1.</p>	
<p>_____ 2.</p>	
<p>_____ 3.</p>	
<p>_____ 4.</p>	
<p>_____ 5.</p>	
<p>_____ 6.</p>	

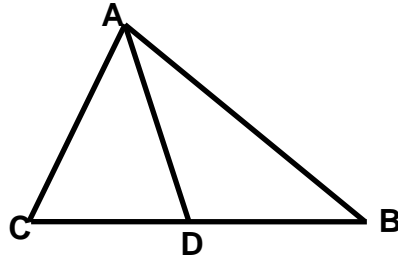
Find the indicated values.

7. $BD =$ _____

$CD =$ _____

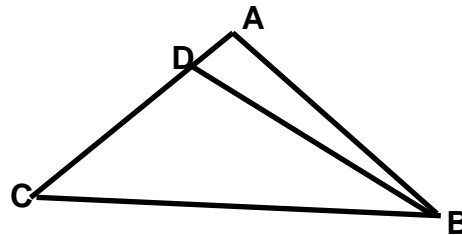
$AC =$ _____

\overline{AD} is a median in $\triangle ABC$, if $BD = 5x - 3$, $CD = 2x + 12$, and $AC = 8x - 14$. Find the length of all three segments.



8. $x =$ _____

\overline{BD} is an altitude in $\triangle ABC$, find the value of 'x' if $m\angle ADB = (6x+12)^\circ$.



9. $m\angle 1 =$ _____

$m\angle 2 =$ _____

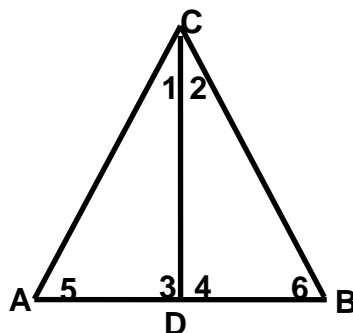
$m\angle 3 =$ _____

$m\angle 4 =$ _____

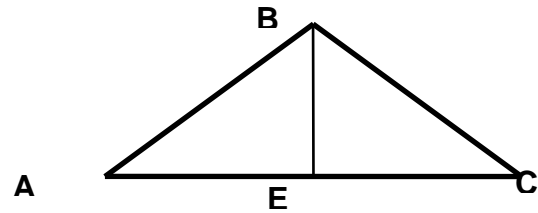
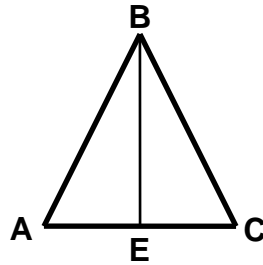
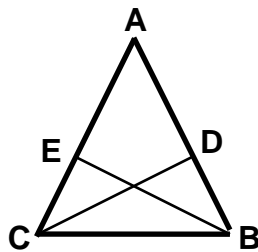
$m\angle 5 =$ _____

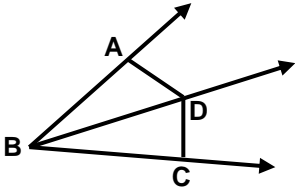
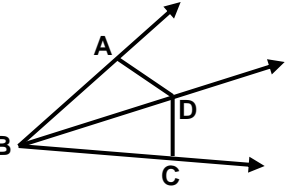
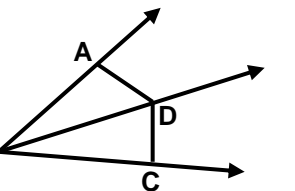
$m\angle 6 =$ _____

$\triangle ABC$ is an isosceles triangle with vertex angle C and altitude CD. Find the measures of $\angle 1, \angle 2, \angle 3, \angle 4, \angle 5$ and $\angle 6$ if $m\angle 1 = 6x + 7$ and $m\angle 2 = 3x + 16$.



10. _____

Suppose \overline{BE} is an altitude and $m\angle A = 30^\circ$. Find $m\angle ABE$.11. $AC =$ _____Suppose $\triangle ABC$ is isosceles and \overline{BE} is an angle bisector of vertex angle B. If $CE = 3x + 34$, $AE = 7x + 14$ then find the length of \overline{AC} .12. $EC =$ _____Suppose \overline{BE} and \overline{CD} are medians. If $AD = 8x - 6$, $AE = 5x - 4$ and $BD = 4x + 2$, then find EC .

<p>13. $AD =$ _____</p>	<p>Given that $\overline{AD} \perp \overrightarrow{BA}$ and $\overline{CD} \perp \overrightarrow{BC}$, BD bisects $\angle ABC$, and $CD = 21.9$, find AD.</p>	
<p>14. $m\angle CBD =$ _____</p>	<p>Given that $AD = 61$, $CD = 61$, and $m\angle ABC = 48^\circ$, find $m\angle CBD$.</p>	
<p>15. $m\angle DBC =$ _____</p>	<p>Given that $DA = DC$, $m\angle DBC = (10y + 3)^\circ$, and $m\angle DBA = (8y + 10)^\circ$, find $m\angle DBC$.</p>	

Choose the best answer choice for the following.

<p>16. _____</p>	<p>What information is needed to conclude that \overrightarrow{EF} is the bisector of $\angle DEG$?</p> <p>F. $m\angle DEF = m\angle DEG$ G. $m\angle FEG = m\angle DEF$ H. $m\angle GED = m\angle GEF$ J. $m\angle DEF = m\angle EFG$</p>
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