Chapter 5 Review

Name the segment of the triangle.

1. 
2. 
3. 
4. 

Draw a triangle with the given information.

5. A median that is also a perpendicular bisector
6. An altitude that lies outside a triangle
7. An altitude that is a side of a triangle
8. A altitude that is also an angle bisector

Use the given information to complete the statement.

Given: $\overline{ST}$, $\overline{TU}$, and $\overline{SU}$ are midsegments.

9. $\square \parallel \overline{TU}$.
10. If $PS = 5$, then $TU = \square$.
11. If $PR = 18$, then $SU = \square$.
12. If $SU = ST$, then $PR = \square$. 
Order the sides and angles from smallest to largest.

13. 

14. 

15. 

16. 

Determine if a triangle can be constructed using sides of the following lengths.

17. 7 in., 6 in., 5 in.  
18. 2 m, 9 m, 4 m

19. 6.25 cm, 10.75 cm, 17 cm  
20. 7.5 m, 3.5 m, 6.5 m

The lengths of two sides of a triangle are given. The length of the third side is x. Write an inequality showing the possible lengths of the third side of the triangle.

21. 12 ft, 9 ft  
22. 95 m, 55 m

23. 6.6 cm, 7.5 cm  
24. 9.25 in, 5.25 in
Complete each statement with <, > or =

25. $\overline{AB} \quad \overline{BC}$

26. $\overline{TU} \quad \overline{SV}$

27. $m\angle 1 \quad m\angle 2$

28. $m\angle 1 \quad m\angle 2$

29. List the sides in order from smallest to largest.

30. List the largest angle.
31. Construct the median of $\triangle ABC$ from vertex $A$ to side $BC$.

32. Construct the altitude of $\triangle ABC$ from vertex $A$ to side $BC$. 
33. Find the mistake in the proof and correct it.

Given: \( \overline{AM} \) is the angle bisector of \( \Delta ABC \)
\( \angle B \cong \angle C \)

Prove: \( \Delta BAM \cong \Delta CAM \)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ( \overline{AM} ) is angle bisector of ( \Delta ABC )</td>
<td>Given</td>
</tr>
<tr>
<td>2. ( \angle BAM \cong \angle CAM )</td>
<td>Definition of angle bisector</td>
</tr>
<tr>
<td>3. ( \angle B \cong \angle C )</td>
<td>Given</td>
</tr>
<tr>
<td>4. ( AM \cong AM )</td>
<td>Symmetric</td>
</tr>
<tr>
<td>5. ( \Delta BAM \cong \Delta CAM )</td>
<td>SSS</td>
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34. Given: \( \overline{AM} \) is the altitude of \( \Delta ABC \)
\( \overline{AB} \cong \overline{AC} \)

Prove: \( \Delta BAM \cong \Delta CAM \)
35. Find the mistake in the proof and correct it.

Given: \( AM \) is angle bisector of \( \angle BAC \)
\( \angle B \) is a right angle
\( \angle C \) is a right angle

Prove: \( \angle AMB \cong \angle AMC \)

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<tr>
<td>1. ( AM ) is the angle bisector of ( \angle BAC )</td>
<td>Given</td>
</tr>
<tr>
<td>2. ( BM \cong CM )</td>
<td>Definition of ( \angle ) Bisector</td>
</tr>
<tr>
<td>3. ( AM \cong AM )</td>
<td>Reflexive</td>
</tr>
<tr>
<td>4. ( \angle B ) is a right angle</td>
<td>Given</td>
</tr>
<tr>
<td>5. ( \triangle BAM ) is a right ( \triangle )</td>
<td>Definition of a Right ( \triangle )</td>
</tr>
<tr>
<td>6. ( \angle C ) is a right angle</td>
<td>Given</td>
</tr>
<tr>
<td>7. ( \triangle CAM ) is a right ( \triangle )</td>
<td>Definition of a Right ( \triangle )</td>
</tr>
<tr>
<td>8. ( \triangle BAM \cong \triangle CAM )</td>
<td>HL</td>
</tr>
<tr>
<td>9. ( \angle AMB \cong \angle AMC )</td>
<td>CPCTC</td>
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36.

Given: \( AM \) is the perpendicular bisector of \( BC \)

Prove: \( \angle ABM \cong \angle ACM \)